As filed with the Securities and Exchange Commission on March 31, 2017

Registration No. 333-215891

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Amendment No. 2
to
FORM S-4
REGISTRATION STATEMENT UNDER
THE SECURITIES ACT OF 1933

PHARMATHENE, INC.

(Exact name of registrant as specified in its Certificate of Incorporation)

Delaware	**2834**	**20-2726770**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

One Park Place Suite 450
Annapolis, MD 21401
(410) 269-2600

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

John M. Gill
Chief Executive Officer
PharmAthene, Inc.
One Park Place
Suite 450
Annapolis, MD 21401
(410) 269-2600

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Jeffrey A. Baumel, Esq.
Asim Grabowski-Shaikh, Esq.
Ilan Katz, Esq.
Dentons US LLP
1221 Avenue of the Americas
New York, New York 10020-1089
(212) 768-6700

Ori Solomon, Esq.
Proskauer Rose LLP
One International Place
Boston, MA 02110-2600
(617) 526-9600

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement and upon completion of the merger described herein.

If the securities being registered on this Form are being offered in connection with the formation of a holding company and there is compliance with General Instruction G, check the following box: o

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of “large accelerated filer,” “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer o	Accelerated filer x	Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company o

If applicable, place an X in the box to designate the appropriate rule provision relied upon in conducting this transaction:

Exchange Act Rule 13e-4(i) (Cross-Border Issuer Tender Offer) o

Exchange Act Rule 14d-1(d) (Cross-Border Third-Party Tender Offer) o

TABLE OF CONTENTS

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered[1]	Proposed maximum offering price per unit	Proposed maximum aggregate offering price[2]	Amount of registration fee[3]
Common stock, par value $0.0001 per share	9,815,728	N/A	$797,963.96	$ 92.48

(1) Represents the estimated maximum number of shares of common stock, par value $0.0001 per share, of PharmAthene, Inc. ("PharmAthene"), issuable to holders of securities of Altimmune, Inc. ("Altimmune") upon completion of the mergers (the "mergers") of Mustang Merger Sub Corp I Inc., a wholly owned subsidiary of PharmAthene, with and into Altimmune, with Altimmune surviving such merger, and immediately thereafter, the merger of Altimmune with and into Mustang Merger Sub II LLC, a wholly owned subsidiary of PharmAthene ("Merger Sub LLC"), with Merger Sub LLC as the surviving entity in such merger, as described in the proxy statement/prospectus/consent solicitation contained herein. The amount of PharmAthene common stock to be registered is based on the estimated number of shares of PharmAthene common stock that are expected to be issued pursuant to the mergers, based on the amount of PharmAthene common stock outstanding as of February 3, 2017, assuming i) PharmAthene security holders will hold approximately 41.8% of the outstanding equity of the combined company following the completion of the mergers, and ii) an assumed reverse stock split of 1-for-10 effected immediately prior to the mergers. The estimated exchange ratio calculation contained herein is subject to adjustment prior to the closing of the mergers and is based upon expected shares of capital stock of PharmAthene and Altimmune outstanding as of the closing of the mergers.

(2) Estimated solely for purposes of calculating the registration fee required by Section 6(b) of the Securities Act of 1933, as amended (the "Securities Act"), and computed pursuant to Rule 457(f)(2) of the Securities Act. Altimmune is a private company, no market exists for Altimmune's securities and Altimmune has an accumulated capital deficit. Therefore, the proposed maximum aggregate offering price is one third of the aggregate par value of the Altimmune securities expected to be exchanged in the proposed mergers, as of immediately prior to the mergers (which such calculation takes into effect a new investment of approximately $3.5 million in Altimmune which is expected to occur following the date hereof and prior to the consummation of the mergers).

(3) Determined in accordance with Section 6(b) of the Securities Act at a rate equal to $115.90 per $1,000,000 of the proposed maximum aggregate offering price. The registration fee was previously paid at the time of the original filing of the Registration Statement on Form S-4.

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

TABLE OF CONTENTS

The information in this proxy statement/prospectus/consent solicitation is not complete and may be changed. A registration statement relating to the securities described in this proxy statement/prospectus/consent solicitation has been filed with the Securities and Exchange Commission. These securities may not be sold nor may offers to buy these securities be accepted until the registration statement filed with the Securities and Exchange Commission is effective. This proxy statement/prospectus/consent solicitation is not an offer to sell nor is it soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

PRELIMINARY AND SUBJECT TO COMPLETION, DATED MARCH 31, 2017

PROPOSED MERGER — YOUR VOTE IS VERY IMPORTANT

PharmAthene, Inc. (“PharmAthene”) is furnishing this proxy statement/prospectus/consent solicitation to the holders of common stock of PharmAthene and Altimmune, Inc. (“Altimmune”) is furnishing this proxy statement/prospectus/consent solicitation to the holders of capital stock of Altimmune.

As previously announced, the boards of directors of PharmAthene and Altimmune have each unanimously approved the Agreement and Plan of Merger and Reorganization, dated as of January 18, 2017, (as amended on March 29, 2017 and as further amended from time to time, the “Merger Agreement”) by and among PharmAthene, Mustang Merger Sub Corp I Inc., a Delaware corporation and a direct wholly owned subsidiary of PharmAthene (“Merger Sub Corp”), Mustang Merger Sub II LLC, a Delaware limited liability company and a direct wholly owned subsidiary of PharmAthene (“Merger Sub LLC”), Altimmune, and Shareholder Representative Services LLC, a Colorado limited liability company, solely in its capacity as a representative of certain security holders of Altimmune, pursuant to which Merger Sub Corp will merge with and into Altimmune, with Altimmune surviving such merger (“Merger 1”), and immediately thereafter, Altimmune will merge with and into Merger Sub LLC, with Merger Sub LLC as the surviving entity in such merger (“Merger 2” and together with Merger 1, the “Mergers”). Upon consummation of the Mergers, Merger Sub Corp and Altimmune will cease to exist, and Merger Sub LLC will continue as a direct wholly owned subsidiary of PharmAthene. Upon completion of the Mergers, the PharmAthene security holders will own approximately 41.8% of the outstanding equity of the combined company, and Altimmune security holders will own approximately 58.2% of the outstanding equity of the combined company, in each case, on an as converted and fully diluted basis. Pursuant to the Merger Agreement, PharmAthene will assume outstanding options and warrants to purchase shares of Altimmune capital stock, if any.

PharmAthene is soliciting proxies for use at a special meeting of stockholders to consider and vote upon the following proposals: (i) to approve the issuance of shares of PharmAthene common stock in the Mergers; (ii) to approve and adopt the Merger Agreement; (iii) to approve an amendment of PharmAthene's Certificate of Incorporation, to effect a reverse stock split prior to the effective time of the Mergers at a ratio (the “Reverse Ratio”) of not less than 1-for-10 and not more than 1-for-75, with the exact Reverse Ratio to be finally determined and mutually agreed to by the PharmAthene and Altimmune Boards of Directors; (iv) to approve the 2017 Omnibus Incentive Plan; and (v) to adjourn the special meeting, if necessary or advisable, to solicit additional proxies if there are not sufficient votes in favor of any of the proposals. Assuming a Reverse Ratio of 1-for-20, PharmAthene would expect to issue an aggregate of 4,907,864 shares of its common stock in connection with the Mergers. The maximum number of shares that PharmAthene would issue, assuming a Reverse Ratio of 1-for-10, would be 9,815,728 shares of common stock.

Altimmune is soliciting written consents from its stockholders to consider and vote on a proposal to approve the Mergers and adopt and approve the Merger Agreement and the other transactions contemplated thereby.

PharmAthene's common stock is listed on the NYSE MKT LLC under the symbol “PIP”. On March , 2017, the last trading day before the date of this proxy statement/prospectus/consent solicitation, the closing sales price per share of PharmAthene's common stock was $. Altimmune is a privately-held company, and there is currently no public market for its securities.

This proxy statement/prospectus/consent solicitation provides you with detailed information about PharmAthene, Altimmune, the Mergers and the Merger Agreement. Please give all of the information in this proxy statement/prospectus/consent solicitation your careful attention. **Please pay particular attention to the section entitled “Risk Factors” beginning on page 29 for a discussion of the risks related to the Mergers, the combined company following completion of the Mergers, and the business and operations of each of PharmAthene and Altimmune.**

PharmAthene and Altimmune are excited about the opportunities that the proposed Mergers bring to both PharmAthene and Altimmune stockholders and thank you for your consideration and continued support.

John M. Gill
Chief Executive Officer
PharmAthene, Inc.

Bill Enright
Chief Executive Officer
Altimmune, Inc.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the PharmAthene common stock to be issued pursuant to the Mergers or determined if this proxy statement/prospectus/consent solicitation is truthful or complete. Any representation to the contrary is a criminal offense.

This proxy statement/prospectus/consent solicitation is dated March , 2017 and is first being mailed or otherwise delivered to stockholders of PharmAthene and Altimmune on or about , 2017.

REFERENCES TO ADDITIONAL INFORMATION

This proxy statement/prospectus/consent solicitation incorporates important business and financial information about PharmAthene from other documents that PharmAthene has filed with the U.S. Securities and Exchange Commission (the "SEC") and that is contained in or incorporated by reference into this proxy statement/prospectus/consent solicitation. For a listing of documents incorporated by reference into this proxy statement/prospectus/consent solicitation, please see the section of this proxy statement/prospectus/consent solicitation entitled "Where You Can Find Additional Information" beginning on page 269. This information is available for you to review at the SEC's public reference room located at 100 F Street, N.E., Room 1580, Washington, DC 20549, and through the SEC's website at *www.sec.gov*.

Any person may request copies of this proxy statement/prospectus/consent solicitation and any of the documents incorporated by reference into this proxy statement/prospectus/consent solicitation or other information concerning PharmAthene, without charge, by written or telephonic request directed to PharmAthene, Inc., Attention: Philip MacNeill, One Park Place, Annapolis, MD 21401, or by telephone at (410) 269-2600; or from the SEC through the SEC website at the address provided above. If you would like to request documents from Altimmune, please send a request to: Altimmune, Inc., 19 Firstfield Road, Gaithersburg, Maryland, 20878, Attention: Corporate Secretary, or by telephone at (240) 654-1450.

In order for you to receive timely delivery of the documents in advance of the special meeting of PharmAthene stockholders to be held on May 4, 2017 (the "Special Meeting"), you must request the information no later than five business days prior to the date of the Special Meeting, or April 27, 2017.

We are not incorporating the contents of the websites of the SEC, PharmAthene or any other entity into this proxy statement/prospectus/consent solicitation. We are providing the information about how you can obtain certain documents that are incorporated by reference into this proxy statement/prospectus/consent solicitation at these websites only for your convenience.

ABOUT THIS PROXY STATEMENT/PROSPECTUS/CONSENT SOLICITATION

This document, which forms part of a registration statement on Form S-4 filed with the SEC by PharmAthene, constitutes a prospectus of PharmAthene under Section 5 of the Securities Act of 1933, as amended, with respect to the shares of common stock of PharmAthene to be issued to Altimmune stockholders pursuant to the Merger Agreement. This document also constitutes a proxy statement of PharmAthene under Section 14(a) of the Securities Exchange Act of 1934, as amended. In addition, this document also constitutes a notice of meeting with respect to the Special Meeting, at which PharmAthene stockholders will be asked to vote on the matters set forth herein.

PharmAthene has supplied all information contained in this proxy statement/prospectus/consent solicitation relating to PharmAthene, and Altimmune has supplied all information contained in this proxy statement/prospectus/consent solicitation relating to Altimmune. You should rely only on the information contained in or incorporated by reference into this document. PharmAthene and Altimmune have not authorized anyone to provide you with information that is different from that contained in or incorporated by reference into this document. This document is dated March , 2017, and you should not assume that the information contained in this document is accurate as of any date other than such date unless otherwise specifically provided herein. Further, you should not assume that the information incorporated by reference into this document is accurate as of any date other than the date of the incorporated document. Neither the mailing of this document to PharmAthene stockholders nor the issuance by PharmAthene of shares of its common stock pursuant to the Merger Agreement will create any implication to the contrary.

PharmAthene, Inc.

NOTICE OF SPECIAL MEETING OF STOCKHOLDERS
To Be Held On May 4, 2017

Dear PharmAthene Stockholder:

A special meeting of the stockholders of PharmAthene, Inc. ("PharmAthene") will be held on May 4, 2017 at 9:00 a.m., local time, at the offices of Dentons US LLP at 1221 Avenue of the Americas, New York, NY 10020 for the following purposes:

1. To consider and vote upon a proposal to approve the issuance of PharmAthene common stock, par value $0.0001 per share, in the mergers contemplated by the Agreement and Plan of Merger and Reorganization, dated as of January 18, 2017, by and among PharmAthene, Mustang Merger Sub Corp I Inc., a Delaware corporation and a direct wholly owned subsidiary of PharmAthene, Mustang Merger Sub II LLC, a Delaware limited liability company and a direct wholly owned subsidiary of PharmAthene, Altimmune, Inc. ("Altimmune"), and Shareholder Representative Services LLC, solely in its capacity as a representative of certain Altimmune securityholders (as amended on March 29, 2017 and as further amended from time to time, the "Merger Agreement");
2. To consider and vote upon a proposal to approve and adopt the Merger Agreement, a copy of which is attached as Annex A to the proxy statement/prospectus/consent solicitation accompanying this notice;
3. To consider and vote upon a proposal to approve an amendment of PharmAthene's Certificate of Incorporation to effect a reverse stock split prior to the effective time of the mergers contemplated by the Merger Agreement at a ratio (the "Reverse Ratio") of not less than 1-for-10 and not more than 1-for-75, with the exact Reverse Ratio to be finally determined and mutually agreed to by the PharmAthene and Altimmune Boards of Directors;
4. To consider and vote upon a proposal to approve the 2017 Omnibus Incentive Plan; and
5. To consider and vote upon a proposal to adjourn the special meeting, if necessary or advisable, to solicit additional proxies if there are not sufficient votes in favor of any of the proposals.

Stockholders also will consider and act on any other matters that may properly come before the special meeting or any adjournment or postponement thereof, including any procedural matters incident to the conduct of the special meeting.

PharmAthene's Board of Directors has fixed March 22, 2017 as the record date for the determination of PharmAthene stockholders entitled to notice of and to vote at the PharmAthene special meeting or any adjournments or postponements of the PharmAthene special meeting. Only holders of record of PharmAthene common stock at the close of business on the record date are entitled to notice of and to vote at the PharmAthene special meeting. At the close of business on March 22, 2017, PharmAthene had 68,815,195 shares of common stock outstanding and entitled to vote.

Your vote is important. The affirmative vote of the holders of a majority of the PharmAthene common stock outstanding, entitled to vote on the proposal and present in person or represented by proxy, is required for the approval of PharmAthene Proposal Nos. 1, 2, 4 and 5. The affirmative vote of the holders of a majority of the PharmAthene common stock outstanding and entitled to vote on the proposal is required for the approval of PharmAthene Proposal No. 3.

Even if you plan to attend the PharmAthene special meeting in person, PharmAthene requests that you complete, sign and return the enclosed proxy card or otherwise provide your proxy and thus ensure that your shares will be represented at the PharmAthene special meeting if you are unable to attend. If you sign, date and mail your proxy card or otherwise provide your proxy without indicating how you wish to vote, your proxy will be counted as a vote in favor of PharmAthene proposals Nos. 1, 2, 3, 4, and 5. If you fail to return your proxy card or otherwise provide your proxy, the effect will be that your shares will not be counted for purposes of determining whether a quorum is present at the

PharmAthene special meeting. If you do attend the PharmAthene special meeting and wish to vote in person, you may withdraw your proxy and vote in person.

The PharmAthene Board of Directors has determined that each of the Proposals noted above is advisable and in the best interest of PharmAthene and its stockholders and has unanimously approved each Proposal. The Board of Directors of PharmAthene unanimously recommends that PharmAthene stockholders vote "FOR" PharmAthene Proposals Nos. 1, 2, 3, 4, and 5.

By Order of the Board of Directors,

Philip MacNeill
Corporate Secretary
Annapolis, Maryland
, 2017

Altimmune, Inc.
19 Firstfield Road
Gaithersburg, MD 20878

NOTICE OF SOLICITATION OF WRITTEN CONSENT

Dear Altimmune Stockholder:

On January 18, 2017, Altimmune, Inc. ("Altimmune") entered into an agreement and plan of merger and reorganization (as amended on March 29, 2017, and as further amended from time to time, the "Merger Agreement"), pursuant to which it will merge into Mustang Merger Sub Corp I Inc., the wholly-owned subsidiary of PharmAthene, Inc. ("PharmAthene") with Altimmune as the surviving entity ("Merger 1"), and immediately thereafter, Altimmune will be merged with and into Mustang Merger Sub II LLC, a wholly owned subsidiary of PharmAthene, with Mustang Merger Sub II LLC as the surviving entity in such merger ("Merger 2", and together with Merger 1, the "Mergers"). Following the consummation of the Mergers, PharmAthene will change its name to Altimmune.

This proxy statement/prospectus/consent solicitation is being delivered to holders of shares of Altimmune's Class A common stock ("Class A Common Stock"), Class B common stock, and Series B preferred stock ("Preferred Stock") on behalf of Altimmune's Board of Directors to request your written consent approving and adopting the Mergers, the Merger Agreement and the transactions contemplated by the Merger Agreement. As a record holder of outstanding Altimmune Class A Common Stock or Preferred Stock on the record date, you are urged to complete, date and sign the enclosed written consent and promptly return the completed and executed consent to Altimmune's Board of Directors by one of the means described in the section entitled "Matters to be Presented to Altimmune's Stockholders — Submission of Consents" beginning on page 102 of the enclosed proxy statement/prospectus/consent solicitation. Altimmune's Board of Directors has set April 10, 2017 as the target final date for receipt of written consents. Altimmune reserves the right to extend the final date for receipt of written consents without any prior notice to stockholders.

This proxy statement/prospectus/consent solicitation describes the Merger Agreement and the actions to be taken in connection with the Mergers and provides additional information about the parties involved, and includes, as Annex A, the complete text of the Merger Agreement. Please give this information your careful attention. You are entitled to the right to seek appraisal of the fair value of your shares of Altimmune capital stock, as determined by the Delaware Court of Chancery with respect to the Mergers under Section 262 of the Delaware General Corporation Law. A summary of the appraisal rights that may be available to you is provided in the section entitled "The Mergers — Appraisal Rights" beginning on page 134 of the enclosed proxy statement/prospectus/consent solicitation. An Altimmune stockholder of record who wishes to exercise appraisal rights, or preserve the ability to do so, must not deliver a signed written consent approving the Mergers and the Merger Agreement or deliver a signed written consent without indicating a decision on the Merger Agreement proposal. Any signed written consent returned without indicating a decision on the Merger Agreement will be counted as approving the Merger Agreement proposal. You must take all other steps necessary to perfect your appraisal rights.

Written consents are required from the holders of (i) at least 65% of the outstanding shares of Altimmune Class A Common Stock and Preferred Stock, voting together as a single class on an as-converted basis, and (ii) a majority of the Class A Common Stock in order to approve and adopt the Mergers, the Merger Agreement and the transactions contemplated thereby. In connection with the execution of the Merger Agreement, certain of the officers, directors and 5% stockholders of Altimmune entered into voting agreements with Altimmune. These stockholders hold a sufficient number of shares of Altimmune capital stock to approve the Mergers, the Merger Agreement and the transactions contemplated thereby, and no meeting of Altimmune stockholders will be held to approve such matters. Nevertheless, all Altimmune stockholders will have the opportunity to adopt the Merger Agreement and approve the Mergers and related transactions, by signing and returning to Altimmune a written consent.

Regardless of the number of shares you own, your written consent is important. Please complete, date and sign the written consent furnished with this proxy statement/prospectus/consent solicitation and return it promptly to Altimmune by one of the means described in the section entitled "Matters to be Presented to Altimmune's Stockholders — Submission of Consents" beginning on page 102 of the enclosed proxy

statement/prospectus/consent solicitation. You may change or revoke your consent to the proposal at any time before the consents of holders of a sufficient number of shares to approve and adopt such proposal have been delivered to Altimmune's Corporate Secretary.

THE ALTIMMUNE BOARD OF DIRECTORS HAS CAREFULLY CONSIDERED THE MERGERS AND THE TERMS OF THE MERGER AGREEMENT AND THE TRANSACTIONS CONTEMPLATED THEREBY AND HAS DETERMINED THAT THE MERGERS AND THE MERGER AGREEMENT ARE FAIR, ADVISABLE AND IN THE BEST INTERESTS OF ALTIMMUNE AND ITS STOCKHOLDERS. ACCORDINGLY, THE ALTIMMUNE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT ALTIMMUNE STOCKHOLDERS APPROVE THE MERGERS AND ADOPT AND APPROVE THE MERGER AGREEMENT AND THE TRANSACTIONS CONTEMPLATED THEREBY BY EXECUTING AND DELIVERING THE WRITTEN CONSENT FURNISHED WITH THIS PROXY STATEMENT/PROSPECTUS/CONSENT SOLICITATION.

By Order Of The Board Of Directors

Elizabeth Czerepak
Corporate Secretary

Gaithersburg, Maryland
, 2017

TABLE OF CONTENTS

QUESTIONS AND ANSWERS ABOUT THE MERGERS

The following questions and answers are intended to briefly address some questions PharmAthene stockholders and Altimmune stockholders may have regarding the proposed transaction between PharmAthene and Altimmune, and the other proposals being considered at the PharmAthene special meeting. This section, however, only provides summary information. PharmAthene and Altimmune urge you to carefully read the entire proxy statement/prospectus/consent solicitation, including the annexes and documents incorporated by reference into this proxy statement/prospectus/consent solicitation, because the information in this section does not provide all of the information that might be important to you.

Unless stated otherwise, all references in this proxy statement/prospectus/consent solicitation to:

- "PharmAthene" refer to PharmAthene, Inc., a Delaware corporation;
- "Altimmune" refer to Altimmune, Inc., a Delaware corporation;
- "Merger Sub Corp" refer to Mustang Merger Sub Corp I Inc., a Delaware corporation and a direct wholly owned subsidiary of PharmAthene;
- "Merger Sub LLC" refer to Mustang Merger Sub II LLC, a Delaware limited liability company and a direct wholly owned subsidiary of PharmAthene;
- the "combined company" refer collectively to PharmAthene and its subsidiaries following the proposed transactions described in this proxy statement/prospectus/consent solicitation;
- the "Merger Agreement" refer to the Agreement and Plan of Merger and Reorganization dated as of January 18, 2017, by and among PharmAthene, Merger Sub Corp, Merger Sub LLC, Altimmune, and Shareholder Representative Services LLC, solely in its capacity as a representative of certain Altimmune securityholders as amended on March 29, 2017 and as further amended from time to time, a copy of which is attached as Annex A to this proxy statement/prospectus/consent solicitation;
- the "mergers" or "merger" refer collectively to (i) the merger of Merger Sub Corp with and into Altimmune, with Altimmune surviving such merger, and immediately thereafter, (ii) the merger of Altimmune with and into Merger Sub LLC, with Merger Sub LLC as the surviving entity in such merger;
- "Merger 1" refer to the merger of Merger Sub Corp. with and into Altimmune, with Altimmune surviving such merger;
- "Merger 2" refer to the merger of Altimmune with and into Merger Sub LLC, with Merger Sub LLC as the surviving entity in such merger;
- the "Effective Time" refer to the effective time of the mergers as contemplated under the Merger Agreement;
- "Altimmune Financing Agreement" refer to Altimmune's entry into a definitive agreement, as amended from time to time, with certain Altimmune stockholders who have irrevocably committed to participate in: (i) the Altimmune Private Placement and (ii) Post-Closing Private Placement;
- "Altimmune Private Placement" refer to the portion of the Altimmune Financing Agreement in which Altimmune stockholders have irrevocably committed to participate in a private placement of convertible securities of Altimmune to raise an aggregate of no less than $3.5 million of gross proceeds for Altimmune to be received by Altimmune prior to the Effective Time;
- "Post-Closing Private Placement" refer to a private placement of the combined company's common stock within 135 days of the closing date of the mergers, in which an aggregate of not less than $5.0 million of gross proceeds are received from certain existing stockholders of Altimmune;
- "Pro Forma Valuation Floor" refer to the completion of the Post-Closing Private Placement at a Pro Forma Combined Company Valuation of $90.0 million (on a pre-money basis); and

- "Minimum Ownership Percentage" refer to minimum ownership percentage of the combined company, for holders of outstanding equity of PharmAthene immediately prior to the Effective Time, after giving effect to the dilutive effects of the Post-Closing Private Placement conducted at the Pro Forma Valuation Floor.

Questions and Answers Regarding the Mergers

Q: What is the transaction?

A: PharmAthene, Merger Sub Corp and Merger Sub LLC, each a wholly owned subsidiary of PharmAthene, on the one hand, and Altimmune and Shareholder Representative Services LLC as Securityholders' Representative of certain Altimmune securityholders, on the other hand, have entered into the Merger Agreement that contains the terms and conditions of the proposed business combination of PharmAthene and Altimmune. Pursuant to the terms and subject to the conditions of the Merger Agreement, Merger Sub Corp will merge with and into Altimmune, with Altimmune surviving such merger, and immediately thereafter, Altimmune will merge with and into Merger Sub LLC, with Merger Sub LLC surviving the merger as a wholly owned subsidiary of PharmAthene. Thereafter, PharmAthene intends to change its name to "Altimmune, Inc."

In addition, to induce PharmAthene, Merger Sub Corp and Merger Sub LLC to enter into the Merger Agreement and to cause the mergers to be consummated, Altimmune entered into the Altimmune Financing Agreement with certain Altimmune Stockholders who irrevocably committed to participate in: (i) the Altimmune Private Placement, such that not less than $3.5 million of gross proceeds for Altimmune are received by Altimmune prior to the Effective Time and (ii) the Post-Closing Private Placement, such that not less than $5.0 million of gross proceeds are received by the combined company from such Altimmune stockholders within 135 days of the closing date of the mergers. If the combined company completes a public offering of common stock during such 135-day period, then the purchase price of the shares acquired in the Post-Closing Private Placement will be at the same price as the shares sold in such public offering.

At the Effective Time, all outstanding shares of Altimmune common stock and preferred stock will be converted solely into the right to receive a number of shares of PharmAthene common stock such that the holders of outstanding equity of Altimmune immediately prior to the Effective Time, including vested and unvested stock options and warrants, if any, will own 58.2% of the outstanding equity of PharmAthene immediately following the Effective Time and holders of outstanding equity of PharmAthene immediately prior to the Effective Time will own 41.8% of the outstanding equity of PharmAthene immediately following the Effective Time in each case on a fully diluted basis, which ratio we refer to herein as the "Exchange Ratio."

As of March 22, 2017, there were 9,195,906 shares of Altimmune Class A Common Stock, 38,836 shares of Altimmune Class B Common Stock and 800,000 shares of Altimmune Series B Convertible Preferred Stock for an aggregate of 10,034,742 shares of common stock (assuming conversion of all Class B Common Stock and Series B Convertible Preferred Stock into Class A Common Stock on a 1-for-1 basis, and re-designation of Altimmune's Class A Common Stock as "common stock"). There are an additional 99,513 restricted shares of Class A Common Stock, and, upon the conversion of the convertible securities to be issued in the Altimmune Private Placement prior to the Effective Time, there will be an additional 527,057 shares of Altimmune Class A Common Stock outstanding that will be converted into the right to receive the merger consideration.

Q: Why am I receiving this proxy statement/prospectus/consent solicitation?

A: You are receiving this proxy statement/prospectus/consent solicitation because you have been identified as a stockholder of PharmAthene or Altimmune. If you are a stockholder of record of PharmAthene as of the record date, you are entitled to vote at PharmAthene's special meeting of stockholders. If you are a stockholder of Altimmune as of the record date, you are entitled to vote by executing the Altimmune stockholder action by written consent. This document serves as a proxy statement of PharmAthene, used to solicit proxies for PharmAthene's special meeting of stockholders, as a consent solicitation of Altimmune, and as a prospectus of PharmAthene to offer shares of PharmAthene common stock to Altimmune security holders in exchange for securities of Altimmune pursuant to the terms of the Merger Agreement. This document

contains important information about the mergers, the shares of PharmAthene common stock to be issued in connection with the mergers, the special meeting of PharmAthene stockholders and the written consent sought from the Altimmune stockholders, and should be read carefully in its entirety.

Q: What are the expected advantages of the proposed mergers?

A: The combined company will have several potential advantages, including, a diversified portfolio of product candidates with two platform technologies, which position the company for future growth, and programs outside of the biodefense area, including potential applications in the influenza, Hepatitis B and Immuno-oncology markets. The combined company will have a strong competitive position in the anthrax vaccine market with two complementary government funded clinical stage next generation anthrax vaccines. In addition, the combined company will be able to leverage each others expertise in vaccine development and government contracting expertise providing current and near term revenue.

Q: Who is paying for this proxy solicitation and consent solicitation?

A: PharmAthene is conducting this proxy solicitation and Altimmune is conducting this consent solicitation and each will bear its own costs of its own solicitation, including the joint preparation, assembly, printing and mailing of this proxy statement/prospectus/consent solicitation, the proxy card, written consent card, and any additional information furnished to PharmAthene and Altimmune stockholders. PharmAthene and Altimmune will each bear its own legal expenses. PharmAthene may also reimburse brokerage houses and other custodians, nominees and fiduciaries for their costs of forwarding proxy materials to beneficial owners of its common stock.

Q: What is required to consummate the mergers?

A: To consummate the mergers, PharmAthene stockholders must approve: (i) the issuance of shares of PharmAthene common stock in the mergers; (ii) the Merger Agreement; (iii) the amendment of PharmAthene's Certificate of Incorporation to effect a reverse stock split; and (iv) the 2017 Omnibus Incentive Plan of PharmAthene. In addition, PharmAthene stockholders are being asked to approve (v) a proposal to adjourn the PharmAthene special meeting, if necessary or advisable, to solicit additional proxies. In addition, Altimmune stockholders must approve the mergers and adopt and approve the Merger Agreement.

The amendment of PharmAthene's Certificate of Incorporation to effect a reverse stock split requires the affirmative vote of the holders of a majority of the PharmAthene common stock outstanding and entitled to vote on the proposal. The approval of the proposals to issue shares of PharmAthene common stock in the mergers, to approve the Merger Agreement, to adopt the 2017 Omnibus Incentive Plan, and to adjourn the meeting, if necessary, to solicit additional proxies, requires the affirmative vote of the holders of a majority of the PharmAthene common stock outstanding, entitled to vote on the proposal and present in person or represented by proxy. For more information, please see the section of this proxy statement/prospectus/consent solicitation entitled “Matters Being Submitted to a Vote of PharmAthene Stockholders.”

The approval by the stockholders of Altimmune requires the affirmative vote of: (i) the holders of 65% of the Altimmune Class A common stock and Altimmune preferred stock, voting together as a single class (on an as-converted to Altimmune common stock basis), and (ii) the holders of a majority of the outstanding shares of Altimmune's Class A common stock. For more information, please see the section of this proxy statement/prospectus/consent solicitation entitled “Matters to be Presented to Altimmune's Stockholders.”

Concurrently and in connection with the execution of the Merger Agreement, certain of PharmAthene's stockholders, who beneficially owned approximately 4,889,087 of the outstanding shares of PharmAthene common stock as of March 22, 2017, entered into a voting agreement in favor of Altimmune (the “PharmAthene Voting Agreement”), pursuant to which such PharmAthene stockholders have agreed to vote their shares of PharmAthene common stock in favor of the adoption of the Merger Agreement and against any amendment of PharmAthene's certificate of incorporation or bylaws or any other proposal or transaction involving PharmAthene, the effect of which amendment or other proposal or transaction is to delay, impair, prevent or nullify the mergers or the transactions contemplated by the Merger Agreement or change in any manner the voting rights of any capital stock of PharmAthene. The signatories thereto may not sell or transfer

their shares other than under specified circumstances pursuant to the PharmAthene Voting Agreement. The PharmAthene Voting Agreement will terminate upon, among other things, the earlier of the Effective Time or termination of the Merger Agreement.

In addition to the requirement of obtaining such stockholder approvals and appropriate regulatory approvals, each of the other closing conditions set forth in the Merger Agreement must be satisfied or waived. For a more complete description of the closing conditions under the Merger Agreement, please see the section of this proxy statement/prospectus/consent solicitation entitled "The Merger Agreement — Conditions to Completion of the Mergers."

Q: When do PharmAthene and Altimmune expect to complete the mergers?

A: PharmAthene and Altimmune are working to complete the mergers during the second quarter of 2017, or as soon as reasonably possible. PharmAthene and Altimmune must first obtain the necessary approvals, including the approval of their respective stockholders, and satisfy the closing conditions described in the Merger Agreement. Neither PharmAthene nor Altimmune can assure you as to whether all the conditions to the mergers will be met nor can PharmAthene or Altimmune predict the exact timing of the completion of the mergers. It is possible PharmAthene and Altimmune will not complete the mergers.

Q: What will I receive if the mergers are completed?

A: If the mergers are completed, each outstanding share of Altimmune common stock and preferred stock, respectively, will be converted into the right to receive a number of shares of PharmAthene common stock such that, pursuant to the Exchange Ratio, the holders of outstanding equity of Altimmune immediately prior to the Effective Time, including vested and unvested stock options and warrants, if any, will own 58.2% of the outstanding equity of PharmAthene immediately following the Effective Time and holders of outstanding equity of PharmAthene immediately prior to the Effective Time will own 41.8% of the outstanding equity of PharmAthene immediately following the Effective Time, in each case on a fully diluted basis. No fractional shares of PharmAthene common stock will be issued in connection with the mergers as a result of the conversion described above, and any fractional share of PharmAthene common stock that would otherwise be issuable thereby will be rounded up to the next whole share.

Q: Is the Exchange Ratio subject to adjustment based on changes in the prices of PharmAthene and/or Altimmune common stock?

A: No. The Exchange Ratio is fixed and no adjustments to the Exchange Ratio will be made based on changes in the price of either PharmAthene common stock or Altimmune common stock prior to the completion of the mergers. As a result of any such changes in stock price, the aggregate market value of the shares of PharmAthene common stock that an Altimmune stockholder is entitled to receive at the time that the mergers are completed could vary significantly from the value of such shares on the date of this proxy statement/prospectus/consent solicitation, the date of the Altimmune stockholder consents, or the date on which such Altimmune stockholder actually receives its shares of PharmAthene common stock.

Q: What are the material U.S. federal income tax consequences of the mergers to Altimmune stockholders?

A: The mergers have been structured to qualify as a tax-free reorganization within the meaning of Section 368(a) of the Internal Revenue Code of 1986, as amended (the "Code"), and the Treasury regulations promulgated thereunder. As a result of the mergers' qualification as a reorganization, it is anticipated that Altimmune stockholders will not recognize gain or loss for U.S. federal income tax purposes upon the exchange of shares of Altimmune common stock or preferred stock for shares of PharmAthene common stock, except with respect to any gain that may be realized in connection with the receipt of one additional share in lieu of a fractional share of PharmAthene common stock and except for Altimmune stockholders who exercise their appraisal rights with respect to the mergers.

Tax matters are very complicated, and the tax consequences of the mergers to a particular stockholder will depend in part on such stockholder's circumstances. Accordingly, you should consult your tax advisor for a full understanding of the tax consequences of the mergers to you, including the applicability and effect of federal, state, local and foreign income and other tax consequences. For more information, please see the section of this proxy statement/prospectus/consent solicitation entitled "Certain Material U.S. Federal Income Tax Consequences of the Mergers."

Q: Who will be the directors of the combined company following the mergers?

A: Immediately following the mergers, the board of directors of the combined company is expected to be composed of seven directors, four to be designated by Altimmune, consisting of William Enright, David J. Drutz, Philip Hodges and Klaus Schafer, and three to be designated by PharmAthene, consisting of Mitchel Sayare, Derace L. Schaffer and John M. Gill.

Q: Who will be the executive officers of the combined company following the mergers?

A: Immediately following the mergers, the executive management team of the combined company is expected to be composed solely of the members of the Altimmune executive management team prior to the mergers, as set forth below:

Name	Title
William Enright	Chief Executive Officer
Elizabeth A. Czerepak	Chief Financial Officer
M. Scot Roberts, Ph.D.	Chief Scientific Officer
Sybil Tasker, M.D., M.P.H.	Senior Vice President of Clinical Research and Development

Q: What risks should I consider in deciding whether to vote in favor of the proposals?

A: You should carefully review the section of this proxy statement/prospectus/consent solicitation entitled "Risk Factors," which sets forth certain risks and uncertainties related to the mergers, risks and uncertainties to which the combined company's business will be subject, and risks and uncertainties to which each of PharmAthene and Altimmune, as an independent company, is subject.

Q: Has the original Merger Agreement entered into on January 18, 2017 been amended?

A: Yes. On March 29, 2017, PharmAthene and Altimmune entered into amendment no. 1 to the original Merger Agreement, which we refer to as amendment no. 1. By executing amendment no. 1, PharmAthene and Altimmune agreed that: (i) the certificate of incorporation of PharmAthene after the effective time of the mergers will be the certificate of incorporation of PharmAthene immediately prior to the effective time of the mergers and that, at that time, PharmAthene will file an amendment to its certificate of incorporation to change its name to "Altimmune, Inc." and (ii) PharmAthene's bylaws will be amended and restated immediately after the effective time of the mergers to be in the form of Exhibit A to amendment no. 1 (which amends and restates Exhibit C to the Merger Agreement).

Q: Have there been any other changes to the merger agreement?

A: No. Other than as set forth in amendment no. 1, the terms and conditions of the Merger Agreement have not changed. A copy of amendment no. 1 is attached as a part of Annex A to this proxy statement/prospectus/consent solicitation.

Q: Who can help answer my questions?

A: If you are a PharmAthene stockholder and would like additional copies, without charge, of this proxy statement/prospectus/consent solicitation or if you have questions about the mergers, including the procedures for voting your shares, please direct your request to: PharmAthene, Inc., One Park Place, Annapolis, MD 21401, c/o Corporate Secretary, or call PharmAthene at: (410) 269-2600 or to Okapi Partners LLC using the informartion below:

1212 Avenue of the Americas, 24th Floor
New York, New York 10036
(212) 297-0720 (Main)
Stockholders Call Toll-Free: (877) 629-6357
Email: info@okapipartners.com

If you are a Altimmune stockholder and would like additional copies, without charge, of this proxy statement/prospectus/consent solicitation or if you have questions about the merger, including the procedures for signing the stockholder action by written consent, you should contact: Altimmune, Inc., 19 Firstfield Road, Suite 200, Gaithersburg, MD 20878, c/o Corporate Secretary, or call Altimmune at (240)-654-1450.

You may also obtain additional information about PharmAthene in documents PharmAthene files with the Securities and Exchange Commission (the "SEC"). Please see the section of this proxy statement/prospectus/consent solicitation entitled "Where You Can Find Additional Information" beginning on page 269.

Questions and Answers for PharmAthene Stockholders

Q: What do PharmAthene stockholders need to do now?

A: You should read this proxy statement/prospectus/consent solicitation carefully, including its annexes and the documents incorporated herein by reference, and consider how the mergers affect you and then vote your shares either in person at the PharmAthene special meeting or by proxy.

If you are a PharmAthene stockholder on the record date, you may provide your proxy instructions in one of three different ways. First, you can mail your signed and completed proxy card in the enclosed return envelope. Second, you can provide your proxy instructions via the toll-free call center set up for this purpose by calling the toll-free number on your proxy card and following the instructions. Please have your proxy card available when you call. You will be prompted to enter the control number from your proxy card that will identify you as a stockholder of record. If you vote by telephone, you do not need to return your proxy card. Finally, if you are a registered stockholder of PharmAthene, you can provide your proxy instructions via the Internet by visiting the web address shown on your proxy card and following the on-screen instructions. Please have your proxy card available when you access the web page. You will be prompted to enter the control number from your proxy card that will identify you as a stockholder of record. If you vote over the Internet, you do not need to return your proxy card. Please provide your proxy instructions as soon as possible so that your shares can be voted at the PharmAthene special meeting. PharmAthene stockholders may also attend the PharmAthene special meeting in person. **PharmAthene urges you to vote by proxy to ensure your vote is counted**. You may still attend the PharmAthene special meeting and vote in person even if you have already voted by proxy.

Q: If my shares are held in "street name" by my broker, will my broker vote my PharmAthene shares for me?

A: Unless your broker has discretionary authority to vote on a matter, your broker will not be able to vote your shares of PharmAthene common stock without instruction from you. Brokers are not expected to have discretionary authority to vote for any of the PharmAthene proposals. If you do not provide voting instructions to your broker or other nominee with respect to these proposals, your broker, must deliver a proxy card to PharmAthene expressly indicating that it is not voting your shares, which is referred to as a "broker

non-vote." Broker non-votes will not count for purposes of determining the number of votes cast. To make sure your vote is counted, you should instruct your broker as to how to vote your shares, following the instructions contained in the voting instructions card that your broker provides to you. A broker non-vote will be counted as a vote "AGAINST" the proposal to approve an amendment of PharmAthene's Certificate of Incorporation (which is a condition to the mergers), but will have no effect on any other proposal.

Q: As a PharmAthene stockholder, how does PharmAthene's Board of Directors recommend that I vote?

A: After careful consideration, PharmAthene's Board of Directors unanimously recommends that PharmAthene stockholders vote:

- **"FOR"** PharmAthene Proposal No. 1 to approve the issuance of PharmAthene common stock, in the mergers as contemplated by the Merger Agreement;
- **"FOR"** PharmAthene Proposal No. 2 to approve and adopt the Merger Agreement, a copy of which is attached as Annex A to the proxy statement/prospectus/consent solicitation;
- **"FOR"** PharmAthene Proposal No. 3 to approve an amendment of PharmAthene's Certificate of Incorporation to authorize a reverse stock split;
- **"FOR"** PharmAthene Proposal No. 4 to approve the 2017 Omnibus Incentive Plan; and
- **"FOR"** PharmAthene Proposal No. 5 to adjourn the special meeting, if necessary or advisable, to solicit additional proxies if there are not sufficient votes in favor of any of the proposals.

Q: What happens if I do not return a PharmAthene proxy card or otherwise provide proxy instructions?

A: If you are a PharmAthene stockholder, the failure to return your proxy card or otherwise provide proxy instructions will have the same effect as voting against Proposal No. 3. An abstention with respect to any proposal will have the same effect as a vote against such proposal. The approval of each of Proposal Nos. 1, 2, 3, and 4, is required to complete the mergers.

Q: May I vote in person?

A: If your shares of PharmAthene common stock are registered directly in your name with PharmAthene's transfer agent, you are considered, with respect to those shares, the stockholder of record, and the proxy materials and proxy card are being sent directly to you if you are a stockholder of record as of the record date. If you are a PharmAthene stockholder of record as of March 22, 2017, you may attend the PharmAthene special meeting to be held on May 4, 2017 and vote your shares in person, rather than sign and return your proxy card or otherwise provide proxy instructions. However, PharmAthene urges you to return your proxy card in any event, just in case your plans to attend the special meeting should change.

If your shares of PharmAthene common stock are held in a brokerage account or by another nominee, you are considered the beneficial owner of shares held in "street name," and the proxy materials are being forwarded to you by your broker together with a voting instruction card. As the beneficial owner, you are also invited to attend the PharmAthene special meeting. Since a beneficial owner is not the stockholder of record, however, you may not vote these shares in person at the special meeting unless you obtain a "legal proxy" from the broker, trustee or nominee that holds your shares, giving you the right to vote the shares at the special meeting.

Q: May I change my vote after I have provided proxy instructions?

A: Yes (except for those stockholders who have executed a voting agreement and irrevocable proxy). If you have not voted through your broker, there are three ways for you to revoke your proxy and change your vote. First, you may send a written notice to PharmAthene's Corporate Secretary stating that you would like to revoke your proxy. Second, you may complete and submit a new proxy card, but it must bear a later date than the original proxy. Third, you may attend and vote in person at the special meeting of PharmAthene stockholders. Your attendance alone will not revoke your proxy. If you have instructed a broker to vote your

shares, you must follow the directions you receive from your broker to change your vote. Your last vote will be the vote that is counted. If you have executed a voting agreement and irrevocable proxy, you may not revoke your proxy instructions.

Q: Are PharmAthene stockholders entitled to appraisal rights?

A: PharmAthene stockholders do not have any appraisal rights in connection with the mergers.

Questions and Answers for Altimmune Stockholders

Q: What do Altimmune stockholders need to do now?

A: You should read this proxy statement/prospectus/consent solicitation carefully, including its annexes, and consider how the mergers affect you. Altimmune stockholders are being asked to sign and return the written consent. Altimmune is not asking Altimmune stockholders for a proxy and Altimmune stockholders are not requested to send Altimmune a proxy. If you hold shares of Altimmune common stock or preferred stock as of the record date and you wish to give your written consent, you must complete the enclosed written consent, date and sign it, and promptly return it to Altimmune. Once you have completed, dated and signed the written consent, you may deliver it to Altimmune by faxing it to (855) 557-1369, by emailing a .pdf copy of your written consent to consents@altimmune.com, or by mailing your written consent to 19 Firstfield Road, Gaithersburg, Maryland 20878.

Q: What am I being asked to approve?

A: You are being asked to approve the mergers and adopt and approve the Merger Agreement and the transactions contemplated thereby.

Q: What options do I have with respect to the Altimmune proposal?

A: With respect to the shares of Altimmune common stock or preferred stock that you hold, you may execute a written consent to approve the mergers and the terms of the Merger Agreement proposal (which is equivalent to a vote for the proposal) or to disapprove such proposal (which is equivalent to a vote against the proposal). If you fail to execute and return your written consent, it has the same effect as voting against the proposal.

Q: As an Altimmune stockholder, how does Altimmune's Board of Directors recommend that I vote?

A: After careful consideration, Altimmune's Board of Directors unanimously recommends that Altimmune's stockholders vote to approve the mergers and adopt and approve the Merger Agreement and the transactions contemplated thereby.

Q: Who is entitled to give a written consent?

A: Altimmune's Board of Directors has set March 22, 2017 as the record date for determining holders of Altimmune common stock or preferred stock entitled to execute and deliver a written consent with respect to this solicitation. Holders of Altimmune common stock or preferred stock on the record date will be entitled to give a consent using the written consent furnished with this proxy statement/prospectus/consent solicitation. If you are an Altimmune stockholder on the record date, you will be able to give or withhold consent, or abstain, on the proposal, using the written consent furnished with this proxy statement/prospectus/consent solicitation.

Q: Who is soliciting my written consent?

A: Altimmune's Board of Directors is providing these consent solicitation materials to you. These materials also constitute a prospectus with respect to the PharmAthene common stock issuable to Altimmune's stockholders in the merger.

Q: Will Altimmune hold a stockholders' meeting?

A: Altimmune will not be holding a stockholders' meeting to consider the proposal, and therefore you will be unable to vote by attending a stockholders' meeting.

Q: What happens if I do not return my Altimmune written consent?

A: If you are a record holder of shares of Altimmune common stock or preferred stock and you do not return your written consent, that will have the same effect as a vote against the proposal.

Q: Will my rights as a PharmAthene stockholder be different from my rights as an Altimmune stockholder?

A: Yes. Upon completion of the mergers, each stockholder of Altimmune will become a stockholder of PharmAthene. There are important differences between the rights of stockholders of PharmAthene and stockholders of Altimmune. Please carefully review the description of these differences in the section of this proxy statement/prospectus/consent solicitation entitled "Comparison of Rights of Stockholders."

Q: Should I send in my stock certificates now?

A: No. If you are an Altimmune stockholder, after the mergers are consummated, you will receive written instructions from the exchange agent for exchanging your certificates representing shares of Altimmune capital stock for certificates representing shares of PharmAthene common stock.

Q: Are Altimmune stockholders entitled to appraisal rights?

A: Under Delaware law, holders of Altimmune common stock or preferred stock are entitled to appraisal rights in connection with the mergers. If you do not wish to accept shares of PharmAthene common stock in the mergers and you do not approve the mergers in the Altimmune stockholder action by written consent, you have the right under Delaware law to seek from Altimmune the "fair value" of your shares in lieu of the PharmAthene common stock you would receive if the mergers are completed. Altimmune refers you to the section of this proxy statement/prospectus/consent solicitation entitled "The Mergers — Appraisal Rights" and to the applicable Delaware statute attached as Annex G to this proxy statement/prospectus/consent solicitation for information on how to exercise your appraisal rights. Failure to follow all of the steps required under the Delaware law will result in the loss of your appraisal rights.

Q: What will Altimmune stockholders receive in the mergers?

A: PharmAthene has agreed to issue, and Altimmune stockholders will have the right to receive, for each share of Altimmune capital stock they hold, that number of shares of PharmAthene common stock, as determined pursuant to the Exchange Ratio described in the Merger Agreement and in the section entitled "The Merger Agreement — Merger Consideration" of this proxy statement/prospectus/consent solicitation. If the mergers are consummated, each share of Altimmune common stock and Altimmune preferred stock will convert into the right to receive that number of shares of PharmAthene common stock as determined by the Exchange Ratio, including all shares issued and outstanding at the time of mergers in connection with the Altimmune Financing Agreement. Upon completion of the mergers, the PharmAthene security holders will own 41.8% of the outstanding equity of the combined company, and Altimmune security holders will own 58.2% of the outstanding equity of the combined company, in each case on a fully diluted basis.

Q: Is any portion of the merger consideration being set aside as an escrow?

A: Yes. Upon the completion of the mergers, ten percent of the merger consideration issuable to the stockholders of Altimmune will be held in escrow as security for indemnification claims under the Merger Agreement. The shares of PharmAthene common stock will be held in the escrow fund until the date that is twelve months from the date of completion of the mergers, subject to any unresolved indemnification claims made prior to that date.

During this escrow period, Altimmune stockholders will be entitled to vote such escrow shares but will not be permitted to sell or otherwise transfer such escrow shares.

Q: How will the mergers affect stock options and warrants for Altimmune capital stock?

A: PharmAthene will assume options and warrants to purchase shares of Altimmune common stock, which will become exercisable for shares of PharmAthene common stock with the same terms, exercisability, vesting schedule and other provisions, but with the number of shares and exercise price being appropriately adjusted to reflect the Exchange Ratio between PharmAthene common stock and Altimmune common stock

determined in accordance with the Merger Agreement and described above. There currently are no outstanding options or warrants to purchase shares of Altimmune preferred stock.

Q: What if I am a record holder and I don't indicate a decision with respect to the proposals?

A: If you are a record holder on the record date of shares of Altimmune common stock or Altimmune preferred stock and you return a signed written consent without indicating your decision on the proposal, you will have given your consent to approve the mergers and adopt and approve the Merger Agreement and the transactions contemplated thereby.

Q: What is the deadline for returning my written consent?

A: The Altimmune Board of Directors has set April 10, 2017 as the targeted final date for receipt of written consents. Altimmune reserves the right to extend the final date for receipt of written consents beyond April 10, 2017 in the event that consents approving the mergers and adopting and approving the Merger Agreement and the transactions contemplated thereby have not been obtained by that date from holders of a sufficient number of shares of Altimmune common stock and Altimmune preferred stock to satisfy the conditions to the mergers. Any such extension may be made without notice to stockholders. Once all conditions to the mergers have been satisfied or waived, the consent solicitation will conclude.

Q: Can I change or revoke my written consent?

A: Yes, if you are a record holder on the record date of shares of Altimmune common stock or preferred stock, you may change or revoke your consent to a proposal at any time before the consents of a sufficient number of shares to approve and adopt such proposal have been delivered to the corporate secretary of Altimmune. If you wish to change or revoke your consent before that time, you may do so by sending in a new written consent with a later date or delivering a notice of revocation to the corporate secretary of Altimmune.

SUMMARY

The Companies

PharmAthene, Inc.

PharmAthene is a biodefense company engaged in developing a next generation anthrax vaccine. The next generation vaccine is intended to have more rapid time to protection, fewer doses for protection and less stringent requirements for temperature controlled storage and handling than the currently used vaccine.

On November 17, 2016, PharmAthene announced that its board of directors had declared a one-time special dividend on PharmAthene common stock of $2.91 per share, totaling an aggregate payment of approximately $200 million. On February 3, 2017, PharmAthene paid the one-time special dividend with funds representing approximately 98% of the after tax net cash proceeds that PharmAthene received from SIGA Technologies, Inc. (“SIGA”) in satisfaction of a judgment owed to PharmAthene by SIGA. In total, PharmAthene received payment of approximately $217 million (including interest) from SIGA in connection with the judgment. The U.S. federal income tax treatment of holding PharmAthene common stock to any particular stockholder will depend on the stockholder's particular tax circumstances. PharmAthene stockholders are urged to consult their tax advisor regarding the U.S. federal, state, local and foreign income and other tax consequences to them, in light of their particular investment or tax circumstances, of the receipt of the special dividend.

During the first half of 2015, PharmAthene narrowed the scope of its product development programs, reduced its employee headcount and executed other cost reductions. These actions have allowed it to have sufficient cash to recognize the benefit of the SIGA award and advance its anthrax vaccine programs without the need to raise additional capital.

PharmAthene is headquartered in Annapolis, Maryland and was incorporated in Delaware in April 2005. PharmAthene's principal offices are located at One Park Place, Suite 450, Annapolis, Maryland 21401 and its telephone number is (410) 269-2600. PharmAthene's principal website is *www.pharmathene.com*. The information contained on or connected to PharmAthene's website is expressly not incorporated by reference into this proxy statement/prospectus/consent solicitation.

For a more complete discussion of PharmAthene's business, please see the section entitled “Item 1. Business.” of PharmAthene’s Annual Report on Form 10-K for the fiscal year ended December 31, 2016, as well as additional information about PharmAthene included in the other documents incorporated by reference into this proxy statement/prospectus/consent solicitation. Please see the section of this proxy statement/prospectus/consent solicitation entitled “Where You Can Find Additional Information” beginning on page 269.

Altimmune, Inc.

Altimmune is a clinical stage immunotherapeutics company focused on the development of products to stimulate robust and durable immune responses for the prevention and treatment of disease. Altimmune has two proprietary platform technologies, RespirVec and Densigen, each of which has been shown, in preclinical studies and early clinical trials, to activate the immune system in distinctly different ways than traditional vaccine methods. Using these technologies, Altimmune has generated clinical product candidates which potentially represent an entirely new approach to harnessing the immune system. Altimmune's most advanced product candidate, NasoVAX, an intranasally administered recombinant influenza vaccine, uses an adenovector to achieve expression of the influenza antigen in the target cell, thereby potentially stimulating a broader and more rapid immune response than traditional influenza vaccines. Altimmune's planned Phase 2 program for NasoVAX is expected to start in the third quarter of 2017, with initial data anticipated approximately six months following the start of enrollment. Altimmune's second most advanced product candidate, HepTcell, is being tested as an immunotherapy for patients chronically infected with the hepatitis B virus (“HBV”), and has the potential to provide a functional cure, something that is not achievable with current treatments. HepTcell is currently in a Phase 1 trial in the United Kingdom in patients with chronic HBV. Initial results from this trial are expected by the end of 2017. With the support of the U.S. Biomedical Advanced Research and Development Authority (“BARDA”), Altimmune is developing a third product candidate, NasoShield, an anthrax vaccine designed to provide rapid, stable protection after one intranasal administration. Subject to

continued financial and other support from BARDA, Altimmune anticipates launching a Phase 1 trial for NasoShield in the first quarter of 2018.

Altimmune was incorporated in the state of Delaware under the name Vaxin Pharmaceuticals, Inc. in December 1997, and subsequently changed its name to Vaxin Inc. in November 2003 and to Altimmune, Inc. in August 2015. Altimmune's principal executive offices are located at 19 Firstfield Road, Suite 200, Gaithersburg, Maryland 20878, and its telephone number is (240) 654-1450. Altimmune's Internet website is *www.altimmune.com*. The information on, or that can be accessed through, Altimmune's website is not part of this proxy statement/prospectus/consent solicitation, and you should not rely on any such information.

"Altimmune," the Altimmune logo and other trademarks, trade names or service marks of Altimmune appearing in this proxy statement/prospectus/consent solicitation, including NasoVAX, HepTcell, RespirVec, Densigen, NasoShield and Oncosyn, are the property of Altimmune. The other trademarks, trade names and service marks appearing in this proxy statement/prospectus/consent solicitation are the property of their respective owners. Solely for convenience, trademarks and trade names referred to in this proxy statement/prospectus/consent solicitation may appear without the ® or TM symbols.

Mustang Merger Sub Corp I Inc.

Mustang Merger Sub Corp I Inc. is a wholly owned subsidiary of PharmAthene that was incorporated in Delaware on January 6, 2017. Merger Sub Corp does not engage in operations and exists solely to facilitate the mergers. If the mergers are completed, Merger Sub Corp will cease to exist following its merger with and into Altimmune.

Merger Sub Corp's principal offices are located at One Park Place, Suite 450, Annapolis, Maryland 21401 and its telephone number is (410) 269-2600.

Mustang Merger Sub II LLC

Mustang Merger Sub II LLC is a wholly owned subsidiary of PharmAthene that was organized in Delaware on January 6, 2017. Merger Sub LLC does not engage in operations and exists solely to facilitate the mergers. If the mergers are completed, Altimmune will merge with and into Merger Sub II LLC, and Altimmune will cease to exist following such merger.

Merger Sub LLC's principal offices are located at One Park Place, Suite 450, Annapolis, Maryland 21401 and its telephone number is (410) 269-2600.

The Mergers

If the mergers are completed, Merger Sub Corp will merge with and into Altimmune, with Altimmune surviving such merger, and immediately thereafter, Altimmune will merge with and into Merger Sub LLC, with Merger Sub LLC as the surviving entity in such merger. After the mergers, PharmAthene and its wholly owned surviving subsidiary, Merger Sub LLC (then, to be renamed Altimmune LLC), will operate as a combined company. Upon the consummation of the mergers, PharmAthene will change its name to "Altimmune, Inc."

In addition, to induce PharmAthene, Merger Sub Corp and Merger Sub LLC to enter into the Merger Agreement and to cause the mergers to be consummated, Altimmune entered into the Altimmune Financing Agreement with certain Altimmune stockholders who irrevocably committed to participate in: (i) the Altimmune Private Placement, such that not less than $3.5 million of gross proceeds for Altimmune are received by Altimmune prior to the Effective Time and (ii) the Post-Closing Private Placement (together with the Altimmune Private Placement, the "Private Placements"), such that not less than $5.0 million of gross proceeds are received by the combined company from such Altimmune stockholders within 135 days of the closing date of the mergers. If the combined company completes a public offering of common stock during such 135-day period, then the purchase price of the shares acquired in the Post-Closing Private Placement will be at the same price as the shares sold in such public offering.

At the Effective Time, and in accordance with the Exchange Ratio, each of Altimmune's outstanding shares of common stock and preferred stock (excluding Altimmune treasury shares, shares of Altimmune owned by PharmAthene or its subsidiaries or dissenting shares), including vested and unvested stock options,

and warrants, if any, will be converted into the right to receive a number of shares of PharmAthene common stock such that the holders of outstanding equity of Altimmune immediately prior to the Effective Time will own 58.2% of the outstanding equity of PharmAthene immediately following the Effective Time and holders of outstanding equity of PharmAthene immediately prior to the Effective Time will own 41.8% of the outstanding equity of PharmAthene immediately following the Effective Time, in each case on a fully diluted basis.

As of March 22, 2017, there were 9,195,906 shares of Altimmune Class A Common Stock, 38,836 shares of Altimmune Class B Common Stock and 800,000 shares of Altimmune Series B Convertible Preferred Stock for an aggregate of 10,034,742 shares of common stock (assuming conversion of all Class B Common Stock and Series B Convertible Preferred Stock into Class A Common Stock on a 1-for-1 basis, and re-designation of Altimmune's Class A Common Stock as "common stock"). There are an additional 99,513 restricted shares of Class A Common Stock, and, upon the conversion of the convertible securities to be issued in the Altimmune Private Placement prior to the Effective Date, there will be an additional 527,057 shares of Altimmune Class A Common Stock outstanding that will be converted into the right to receive the merger consideration.

A copy of the Merger Agreement is attached as Annex A to this proxy statement/prospectus/consent solicitation and is incorporated by reference herein. You are encouraged to read the Merger Agreement in its entirety because it is the legal document that governs the mergers. For a more complete discussion of the mergers, see the sections of this proxy statement/prospectus/consent solicitation entitled "The Mergers" and "The Merger Agreement."

Reasons for the Mergers

The combined company will be a fully integrated, commercially-focused immunotherapeutics company. PharmAthene and Altimmune both believe that the two companies combined will be able to create more value than either company could achieve individually.

Each of the boards of directors of PharmAthene and Altimmune also considered other reasons for the mergers, as described herein. For example, the PharmAthene Board of Directors considered, among other reasons, the following:

- historical and current information concerning PharmAthene's business, financial performance, financial condition, operations, management, and competitive position, the prospects of PharmAthene and its products, the nature of the biodefense industry generally, including financial projections of PharmAthene under various scenarios and its short- and long-term strategic objectives and the related risks and the belief that the combination of PharmAthene's and Altimmune's businesses would create more value for PharmAthene stockholders in the long-term than PharmAthene could create as an independent, stand-alone company;
- the viability of strategic alternatives if the proposed mergers with Altimmune do not occur, in light of, among other things, PharmAthene's financial prospects, the likelihood of other business combinations or other strategic transactions and access to the capital needed to continue successful operations, and the belief that the proposed mergers with Altimmune would provide PharmAthene's stockholders with a greater potential opportunity to realize a return on their investment than any other alternative reasonably available to PharmAthene and its stockholders;
- the synergies expected to arise from, among others, two complementary government funded clinical stage next generation anthrax vaccines (SparVax-L and NasoShield);
- historical and current information concerning Altimmune's business, financial performance, financial condition, operations and management and the results of a due diligence investigation of Altimmune conducted by PharmAthene's management and advisors; and
- the opportunity for PharmAthene's stockholders to participate in the potential future value of the combined company, including future potential value from Altimmune's technology, additional product candidates and other assets.

In addition, the Altimmune Board of Directors considered, among other reasons, the following:

- the potential to provide its current stockholders with greater liquidity by owning stock in a public company;
- the belief that the mergers with PharmAthene would be a more time- and cost-effective means to access sufficient capital than other options considered, including an initial public offering or additional rounds of private equity financing;
- the belief that the range of options available to the combined company to access private and public equity markets will likely be greater as a public company than continuing as a privately held company;
- the synergies expected to arise from, among others, two complementary government funded clinical stage next generation anthrax vaccines (SparVax-L and NasoShield);
- the belief that the combined company's diversified pipeline of product candidates, research capabilities, government contracting expertise, access to opportunities for non-dilutive funding and other synergies creates a superior company when compared to remaining as an independent private company;
- the strategic alternatives of Altimmune to the mergers, including, remaining an independent private company, attempting an initial public offering, entering into a business combination transaction with an alternative company and additional strategic partnerships;
- the likelihood that the mergers will be consummated on a timely basis; and
- the expectation that the mergers will be treated as a reorganization for U.S. federal income tax purposes.

For a more complete discussion of PharmAthene's and Altimmune's reasons for the mergers, see the sections of this proxy statement/prospectus/consent solicitation entitled “The Mergers — PharmAthene Reasons for the Mergers” and “The Mergers — Altimmune Reasons for the Mergers.”

Risks Related to the Proposed Mergers

Both PharmAthene and Altimmune are subject to various risks associated with their respective businesses and financial condition. In addition, the mergers, as well as the possibility that the mergers may not be completed, pose a number of risks to PharmAthene and Altimmune and their respective stockholders, including the following risks:

- the issuance of shares of PharmAthene common stock to the Altimmune stockholders in the mergers will dilute substantially the voting power of current PharmAthene stockholders;
- there is no assurance when or even if the mergers will be completed. Failure to obtain required approvals necessary to satisfy closing conditions may delay or prevent completion of the mergers;
- because the lack of a public market for Altimmune's outstanding shares makes it difficult to evaluate the fairness of the mergers, Altimmune stockholders may receive consideration in the mergers that is greater than or less than the fair market value of the Altimmune shares;
- because the mergers will be completed after the date of the PharmAthene special meeting of stockholders and the Altimmune written consent of stockholders, at the time of the special meeting or written consent, you will not know the exact number of shares of PharmAthene common stock that the Altimmune stockholders will receive upon completion of the mergers;
- PharmAthene and Altimmune executive officers and directors may have interests in the mergers that are different from, or in addition to, those of PharmAthene stockholders and Altimmune stockholders generally;
- the pendency of the mergers could have an adverse effect on the trading price of PharmAthene common stock and the business, financial condition, results of operations or business prospects for PharmAthene, Altimmune and the combined company;

- failure to satisfy initial or continued listing requirements of the NYSE MKT LLC (the "NYSE MKT");
- during the pendency of the mergers, PharmAthene and Altimmune may be unable to enter into a business combination with another party because of restrictions in the Merger Agreement;
- the mergers may be completed even though material adverse changes may result during the pendency of the mergers or from industry-wide changes or other causes;
- the rights of Altimmune stockholders who become PharmAthene stockholders in the mergers will be governed by PharmAthene's Certificate of Incorporation and Bylaws, each as amended;
- if the mergers do not qualify as a reorganization under Section 368(a) of the Code or are otherwise taxable to U.S. holders of Altimmune common stock, then such holders may be required to pay substantial U.S. federal income taxes;
- PharmAthene and Altimmune have incurred and will continue to incur significant transaction costs in connection with the mergers; and
- the anticipated benefits of the mergers may not be realized fully or at all or may take longer to realize than expected.

In addition, PharmAthene, Altimmune and the combined company are subject to various risks associated with their respective businesses and the mergers. See the section of this proxy statement/prospectus/consent solicitation entitled "Risk Factors," and see also the documents that PharmAthene has filed with the SEC that are incorporated by reference in this proxy statement/prospectus/consent solicitation.

Opinion of the Financial Advisor to PharmAthene

On January 18, 2017, Houlihan Lokey Capital, Inc. ("Houlihan Lokey"), verbally rendered its opinion to PharmAthene's Board of Directors (which was subsequently confirmed in writing by delivery of Houlihan Lokey's written opinion addressed to PharmAthene's Board of Directors dated January 18, 2017), as to the fairness to PharmAthene, from a financial point of view, of the Exchange Ratio provided for pursuant to the Merger Agreement.

Houlihan Lokey's opinion was directed to PharmAthene's Board of Directors (in its capacity as such) and only addressed the fairness to PharmAthene, from a financial point of view, of the Exchange Ratio provided for pursuant to the Merger Agreement and did not address any other aspect or implication of the mergers and the Private Placements (collectively, the "Transaction") or any other agreement, arrangement or understanding. The summary of Houlihan Lokey's opinion in this proxy statement/prospectus/consent solicitation is qualified in its entirety by reference to the full text of its written opinion, which is attached as Annex FA to this proxy statement/prospectus/consent solicitation and describes the procedures followed, assumptions made, qualifications and limitations on the review undertaken and other matters considered by Houlihan Lokey in connection with the preparation of its opinion. However, neither Houlihan Lokey's opinion nor the summary of its opinion and the related analyses set forth in this proxy statement/prospectus/consent solicitation are intended to be, and do not constitute, advice or a recommendation to PharmAthene's Board of Directors, any security holder of PharmAthene or any other person as to how to act or vote with respect to any matter relating to the Transaction. Please see the section of this proxy statement/prospectus/consent solicitation entitled "The Mergers — Opinion of the Financial Advisor to PharmAthene."

Overview of the Merger Agreement

Pursuant to the Merger Agreement, Merger Sub Corp will merge with and into Altimmune, with Altimmune surviving such merger, and immediately thereafter, Altimmune will merge with and into Merger Sub LLC, a direct wholly owned subsidiary of PharmAthene, with Merger Sub LLC as the surviving entity in such merger.

Pursuant to the terms of the Merger Agreement, at the Effective Time, each outstanding share of Altimmune's common stock and preferred stock (excluding Altimmune treasury shares, shares of Altimmune owned by PharmAthene or dissenting shares) will be converted into the right to receive a number of shares of

PharmAthene common stock such that the holders of outstanding equity of Altimmune immediately prior to the Effective Time will own 58.2% of the outstanding equity of PharmAthene immediately following the Effective Time and holders of outstanding equity of PharmAthene immediately prior to the Effective Time will own 41.8% of the outstanding equity of PharmAthene immediately following the Effective Time, in each case, on a fully diluted basis. At the Effective Time, ten percent of the shares of PharmAthene common stock issued to the stockholders of Altimmune at the Effective Time will be deposited with Continental Stock Transfer & Trust Company, as escrow agent under a separate escrow agreement to be entered into prior to the completion of the mergers (the "Escrow Shares"). These Escrow Shares will be held in escrow for a period of twelve months after the closing date and will serve to secure the sole source of Altimmune's stockholders' indemnification obligations under the Merger Agreement. During this escrow period, Altimmune stockholders will be entitled to vote such Escrow Shares but will not be permitted to sell or otherwise transfer such Escrow Shares.

Each of PharmAthene and Altimmune have made customary representations, warranties and covenants in the Merger Agreement, including, among others, covenants that: (i) each party will conduct its business in the ordinary course consistent with past practice during the interim period between execution of the Merger Agreement and completion of the mergers; (ii) each party will not engage in certain kinds of transactions or take certain actions during such period (including, but not limited to, the issuance and sale of its securities and the incurrence of debt, with certain exceptions); (iii) Altimmune will solicit approval by its stockholders of the Merger Agreement and the transactions contemplated thereby and the Altimmune Board of Directors will recommend that its stockholders adopt and approve the Merger Agreement, subject to certain exceptions; and (iv) PharmAthene will convene and hold a meeting of its stockholders for the purpose of considering, among other things, the approval of the issuance of shares of PharmAthene common stock in connection with the mergers, and the PharmAthene Board of Directors will recommend that its stockholders adopt and approve such proposals, subject to certain exceptions. PharmAthene also has agreed not to solicit proposals relating to alternative business combination transactions or enter into discussions or an agreement concerning any proposals for alternative business combination transactions, subject to exceptions in the event of its receipt of a "superior proposal," as defined in the Merger Agreement. All representations and warranties of Altimmune (but not PharmAthene) included in the Merger Agreement will survive the completion of the mergers and remain in full force and effect until 12 months after the closing date.

Completion of the mergers are subject to a number of conditions, including: (i) stockholders of Altimmune must have approved and adopted the Merger Agreement and the mergers; (ii) stockholders of PharmAthene must have approved and adopted the Merger Agreement, the mergers, issuance of PharmAthene common stock in the mergers and an amendment to PharmAthene's certificate of incorporation to effect a reverse stock split; (iii) $3.5 million of capital committed to Altimmune will have been received by Altimmune in connection with the Altimmune Private Placement; (iv) the total amount of indebtedness and certain outstanding specified liabilities of Altimmune as of the Effective Time, will not exceed $2.5 million and all excess indebtedness and liabilities of Altimmune will have been repaid, settled or otherwise extinguished; (v) PharmAthene and Altimmune will have agreed in good faith on a final flu clinical development plan in accordance with the terms of the Merger Agreement; (vi) the net cash of PharmAthene will not be less than $10.25 million; (vii) the shares of PharmAthene common stock to be issued in the mergers must be approved for listing on the NYSE MKT subject to official notice of issuance; and (viii) other customary closing conditions.

The Merger Agreement contains termination rights in favor of each of PharmAthene and Altimmune in certain circumstances. If PharmAthene terminates the Merger Agreement pursuant to its superior proposal termination right, it is obligated to pay to Altimmune a break-up fee of $2,000,000. In addition, either party may terminate the Merger Agreement if: (i) the mergers have not been completed by June 30, 2017; or (ii) the stockholders of PharmAthene have not approved the issuance of the shares pursuant to the Merger Agreement at the PharmAthene special meeting or any adjournments or postponements thereof. Altimmune must reimburse PharmAthene for the actual and verifiable out-of-pocket costs and expenses of PharmAthene in connection with the Merger Agreement and the transactions contemplated thereby, up to $1 million in the aggregate, if a court of competent jurisdiction has issued an order, decree or ruling that restrains, enjoins or otherwise prohibits the merger on the grounds that it violates the terms of the Delaware General Corporation

Law (“DGCL”) in response to any action initiated by any stockholder of Altimmune and such order, decree or ruling, or other action has not been reversed prior to June 30, 2017. In certain other circumstances, PharmAthene and Altimmune may be obligated to reimburse the other for expenses incurred in connection with the mergers, not to exceed $250,000.

The Merger Agreement contains certain indemnification provisions, which, among other things, provide that Altimmune stockholders are obligated to indemnify and hold harmless PharmAthene and its directors, officers, stockholders, employees, agents, subsidiaries and affiliates, and will reimburse such persons for, any loss, liability, damage or expense, including reasonable out-of-pocket costs of investigation and defense of claims and reasonable attorneys' fees and expenses incurred by such persons arising for any breach of any representation, warranty covenant, or agreement of Altimmune in the Merger Agreement for a period of twelve months after the closing date of the mergers. The indemnification obligations will not apply to any loss that is less than $50,000 and unless all losses for all indemnification claims made by such persons exceeds $1 million in the aggregate, in which event the Altimmune stockholders will be liable for all losses from the first dollar in excess of $1 million. Such thresholds may be increased from $1 million to $2 million for certain breaches. At the Effective Time, ten percent of the shares of PharmAthene common stock issuable to the stockholders of Altimmune will be deposited with Continental Stock Transfer and Trust Company, as escrow agent under a separate escrow agreement to be entered into prior to the completion of the mergers. These Escrow Shares will serve to secure the Altimmune's stockholders' indemnification obligations under the Merger Agreement. No Altimmune stockholder will be liable for any losses in excess of their *pro rata* share of the Escrow Shares. Neither PharmAthene nor the surviving subsidiary will have any obligation to indemnify the Altimmune stockholders for any breach of any representation or warranty made by, or any covenant or agreement of, PharmAthene, Merger Sub Corp or Merger Sub LLC under the Merger Agreement.

The foregoing summary of the Merger Agreement does not purport to be complete and is qualified in its entirety by reference to the Merger Agreement, which is filed as Annex A hereto, and which is incorporated herein by reference.

Altimmune Financing Agreement

In addition, to induce PharmAthene, Merger Sub Corp and Merger Sub LLC to enter into the Merger Agreement and to cause the mergers to be consummated, Altimmune entered into the Altimmune Financing Agreement with certain Altimmune stockholders who irrevocably committed to participate in: (i) the Altimmune Private Placement, such that not less than $3.5 million of gross proceeds for Altimmune are received by Altimmune prior to the Effective Time and (ii) the Post-Closing Private Placement, such that not less than $5.0 million of gross proceeds are received by the combined company from such Altimmune stockholders within 135 days of the closing date of the mergers. If the combined company completes a public offering of common stock during such 135-day period, then the purchase price of the shares acquired in the Post-Closing Private Placement will be at the same price as the shares sold in such public offering.

As of March 22, 2017, there were 9,195,906 shares of Altimmune Class A Common Stock, 38,836 shares of Altimmune Class B Common Stock and 800,000 shares of Altimmune Series B Convertible Preferred Stock for an aggregate of 10,034,742 shares of common stock (assuming conversion of all Class B Common Stock and Series B Convertible Preferred Stock into Class A Common Stock on a 1-for-1 basis, and re-designation of Altimmune’s Class A Common Stock as “common stock”). There are an additional 99,513 restricted shares of Class A Common Stock, and, upon the conversion of the convertible securities to be issued in the Altimmune Private Placement prior to the Effective Time, there will be an additional 527,057 shares of Altimmune Class A Common Stock outstanding that will be converted into the right to receive the merger consideration.

PharmAthene Voting Agreement

Concurrently and in connection with the execution of the Merger Agreement, certain of PharmAthene's stockholders, who beneficially owned approximately 4,889,087, or approximately 7.01%, of the outstanding shares of PharmAthene common stock as of March 22, 2017, entered into the PharmAthene Voting Agreement in favor of Altimmune, pursuant to which such PharmAthene stockholders agreed to vote their shares of PharmAthene common stock in favor of the adoption of the Merger Agreement, the issuance of PharmAthene shares of common stock to Altimmune stockholders and against any amendment of PharmAthene's certificate

of incorporation or bylaws or any other proposal or transaction involving PharmAthene, the effect of which amendment or other proposal or transaction is to delay, impair, prevent or nullify the mergers or the transactions contemplated by the Merger Agreement or change in any manner the voting rights of any capital stock of PharmAthene. The signatories thereto may not sell or transfer their shares other than under specified circumstances pursuant to the PharmAthene Voting Agreement. The PharmAthene Voting Agreement will terminate upon, among other things, the earlier of the Effective Time or termination of the Merger Agreement.

For a more complete discussion of the PharmAthene Voting Agreement, see the section of this proxy statement/prospectus/consent solicitation entitled “Voting and Other Agreements — PharmAthene Voting Agreement.” The foregoing description of the PharmAthene Voting Agreement does not purport to be complete and is qualified in its entirety by reference to the form of PharmAthene Voting Agreement attached as Annex B to this proxy statement/prospectus/consent solicitation.

Altimmune Voting Agreement

On January 19, 2017, certain of Altimmune's stockholders, who beneficially owned approximately 68% of the outstanding shares of Altimmune capital stock, entered into a voting agreement in favor of PharmAthene (the “Altimmune Voting Agreement”), pursuant to which such Altimmune stockholders agreed to vote their shares of Altimmune capital stock in favor of the adoption of the Merger Agreement and against any amendment of Altimmune's certificate of incorporation or bylaws or any other proposal or transaction involving Altimmune, the effect of which amendment or other proposal or transaction would be to delay, impair, prevent or nullify the mergers or the transactions contemplated by the Merger Agreement or change in any manner the voting rights of any capital stock of Altimmune.

The Altimmune Voting Agreement will terminate upon, among other things, the earlier of the Effective Time or the termination of the Merger Agreement. The signatories thereto may not sell or transfer their shares other than under specified circumstances pursuant to the Altimmune Voting Agreement.

For a more complete discussion of the Altimmune Voting Agreement, see the section of this proxy statement/prospectus/consent solicitation entitled “Voting and Other Agreements — Altimmune Voting Agreement.” The foregoing description of the Altimmune Voting Agreement does not purport to be complete and is qualified in its entirety by reference to the form of Altimmune Voting Agreement attached as Annex D to this proxy statement/prospectus/consent solicitation.

Lock-Up Agreements

Concurrently and in connection with the execution of the Merger Agreement, certain of the officers, directors and stockholders of PharmAthene, who in the aggregate beneficially held approximately 7.04% of the outstanding shares of PharmAthene capital stock as of January 18, 2017 (approximately 2.9% of the shares that will be outstanding of the combined company immediately following the Effective Time), entered into post-closing lock-up agreements (the “PharmAthene Lock-up Agreements”). Pursuant to the PharmAthene Lock-up Agreements, each such stockholder will be subject to lock-up restrictions on the sale of PharmAthene common stock owned by them as of the Effective Time. Such restrictions will begin at the Effective Time and end 180 days after the Effective Time.

Concurrently and in connection with the execution of the Merger Agreement, certain of the officers, directors and stockholders of Altimmune, who in the aggregate held approximately 68% of the outstanding shares of Altimmune capital stock as of January 18, 2017 (approximately 39.6% of the shares that will be outstanding of the combined company immediately following the Effective Time), entered into post-closing lock-up agreements with PharmAthene (the “Altimmune Lock-up Agreements”). Pursuant to the Altimmune Lock-up Agreements, each such stockholder will be subject to lock-up restrictions on the sale of PharmAthene common stock acquired in the mergers. Such restrictions will begin at the Effective Time and end 180 days after the Effective Time.

For a more complete discussion of each of the Altimmune Lock-up Agreements and PharmAthene Lock-up Agreements, see the section of this proxy statement/prospectus/consent solicitation entitled “Voting and Other Agreements — PharmAthene and Altimmune Post-closing Lock-up Agreements.” The foregoing description of each of the PharmAthene Lock-Up Agreements and Altimmune Lock-Up Agreements does not

purport to be complete and is qualified in its entirety by reference to the forms of PharmAthene Lock-up Agreement and Altimmune Lock-up Agreement, which are filed as Annex C and E, respectively, and which are incorporated herein by reference.

Stockholder Approval of the Mergers

As of March 22, 2017, all directors and executive officers, as well as a key employee, of PharmAthene, together with their affiliates, beneficially owned approximately 6.8% of the shares of PharmAthene common stock outstanding on and issuable within 60 days of March 22, 2017. The amendment to PharmAthene's Certificate of Incorporation to authorize the reverse-split of common stock requires the affirmative vote of the holders of a majority of the PharmAthene common stock outstanding and entitled to vote on the proposal. The approval of the issuance of shares of PharmAthene common stock in the mergers, the approval of the proposal to approve the Merger Agreement, the approval of the proposal to approve the 2017 Omnibus Incentive Plan, and the proposal to adjourn the PharmAthene special meeting, if necessary or advisable, to solicit additional proxies, each requires the affirmative vote of the holders of a majority of the shares of PharmAthene common stock outstanding, entitled to vote on the proposal and present at the PharmAthene special meeting in person or by proxy. All PharmAthene officers and directors, and their affiliates as noted above, have entered into the PharmAthene Voting Agreement in connection with the mergers. For a more complete discussion of the PharmAthene Voting Agreement, see the section of this proxy statement/prospectus/consent solicitation entitled “Voting and Other Agreements — PharmAthene Voting Agreement.”

As of March 22, 2017, all directors and executive officers of Altimmune, together with their affiliates, held, in the aggregate, approximately 68% of the outstanding shares of Altimmune capital stock, consisting of 6,124,026 Class A shares, or approximately 66% of the outstanding shares of Class A Common Stock and 674,300 Series B Preferred shares, or approximately 84% of the outstanding shares of Series B Preferred Stock. Written consents are required from the holders of at least (i) 65% of the outstanding shares of Altimmune Class A Common Stock and Preferred Stock, voting together as a single class on an as-converted basis, and (ii) a majority of the Class A Common Stock. All Altimmune officers and directors, and their affiliates, have entered into the Altimmune Voting Agreement in connection with the mergers. For a more complete discussion of the Altimmune Voting Agreement, see the section of this proxy statement/prospectus/consent solicitation entitled “Voting and Other Agreements — Altimmune Voting Agreement.”

Directors and Officers of PharmAthene Following the Mergers

At the Effective Time of the mergers, PharmAthene is initially expected to have a seven member board of directors, comprised of William Enright, David J. Drutz, Philip Hodges, Klaus Schafer, Mitchel Sayare, Derace L. Schaffer and John M. Gill.

William Enright, David J. Drutz, Philip Hodges and Klaus Schafer are directors of Altimmune prior to the Effective Time of the mergers and are expected to become directors of PharmAthene at the Effective Time of the mergers. Mitchel Sayare, Derace L. Schaffer and John M. Gill are directors of PharmAthene prior to the Effective Time of the mergers and are expected to continue in such capacity after the Effective Time of the mergers, until the next annual meeting of the stockholders of the combined company. David J. Drutz will serve as Chairman of the Board of the combined company.

Immediately following the mergers, the executive management team of PharmAthene is expected to be composed solely of the members of the Altimmune executive management team prior to the mergers, as set forth below:

Name	Title
William Enright	Chief Executive Officer
Elizabeth A. Czerepak	Chief Financial Officer
M. Scot Roberts, Ph.D.	Chief Scientific Officer
Sybil Tasker, M.D., M.P.H.	Senior Vice President of Clinical Research and Development

Bertrand Georges, Ph.D., Altimmune’s Chief Technology Officer, is expected to continue to serve as a significant employee of the combined company.

Interests of PharmAthene's Directors and Executive Officers in the Mergers

In considering the recommendation of the PharmAthene Board of Directors to PharmAthene stockholders to vote in favor of the issuance of shares of PharmAthene common stock in the mergers, and the other matters to be acted upon by PharmAthene stockholders at the PharmAthene special meeting, PharmAthene stockholders should be aware that members of the PharmAthene Board of Directors and PharmAthene's executive officers have interests in the mergers that may be different from, or in addition to, or conflict with, the interests of PharmAthene stockholders.

Interests of the PharmAthene directors and executive officers relate to the continuing service of John M. Gill, Mitchel Sayare, Ph.D., and Derace Schaffer, M.D., as directors of the combined company following completion of the mergers and payment of cash and equity compensation in such capacity, and, with respect to Mr. Gill and Mr. MacNeill, severance payments in connection with the mergers pursuant to their respective employment agreement as CEO and CFO of PharmAthene.

The employment agreement with Mr. Gill specifically provides for a payment to him upon the closing of the mergers, upon which he will receive, if terminated without cause or for “good reason” or upon a written notice of non-extension, his target bonus of 50%, or $153,150, of his base salary. Mr. MacNeill will be eligible to receive: (i) a severance payment in the amount of $93,094 if Mr. MacNeill remains employed with PharmAthene through the closing of the mergers and the preparation of PharmAthene's 2016 annual report and proxy statement for the PharmAthene 2017 annual meeting of stockholders and (ii) a bonus payment in the amount of $67,235 if he remains employed through the closing of the mergers. Each payment will become due and payable upon a termination by PharmAthene without cause.

The PharmAthene Board of Directors was aware of these potential conflicts of interest and considered them, among other matters, in reaching its decision to approve the Merger Agreement and the transactions contemplated thereby, including the issuance of shares of PharmAthene common stock in the mergers, and to recommend that PharmAthene stockholders approve the issuance of shares of PharmAthene common stock in the mergers and related matters. Other than undertaking to provide full disclosure of these potential conflicts of interest, the PharmAthene Board of Directors did not take any other steps to alleviate such potential conflicts of interest since it did not consider such potential conflicts of interest to be material in connection with its decision to approve the Merger Agreement and the transactions contemplated thereby, including the issuance of shares of PharmAthene common stock.

For a more complete discussion of the interests of the directors and executive officers of PharmAthene in the merger, please see the section of this proxy statement/prospectus/consent solicitation entitled “The Mergers — Interests of PharmAthene's Directors and Executive Officers in the Mergers.”

Interests of Altimmune's Directors and Executive Officers in the Mergers

In considering the recommendation of the Altimmune Board of Directors to Altimmune stockholders to approve the mergers and to adopt and approve the Merger Agreement Altimmune stockholders should be aware that members of the Altimmune Board of Directors and Altimmune's executive officers have interests in the mergers that may be different from, in addition to, or may conflict with the interests of Altimmune stockholders.

These interests include the beneficial ownership interests of Altimmune directors and executive officers in shares of Altimmune capital stock and securities to be converted to PharmAthene common stock and rights to purchase PharmAthene common stock in the mergers, the assumption of all stock options held by the Altimmune executive officers and board members upon the completion of the mergers, whether vested or unvested, the agreement that William Enright, David J. Drutz, Philip Hodges and Klaus Schafer, each an Altimmune director, will continue to serve on the Board of Directors of the combined company following the consummation of the mergers, the agreement that William Enright, Elizabeth Czerepak, Scot Roberts and Sybil Tasker, each an Altimmune executive officer, will continue to serve as executive officers of the combined company following the consummation of the mergers, the agreement that Mr. Enright may be granted, upon completion of the mergers, an option to purchase a number of shares of common stock of the combined company equal to the number of shares issuable to a holder of 133,395 shares of Altimmune Common Stock prior to the merger, the agreement that the base salaries of Mr. Enright, Ms. Czerepak and

Dr. Roberts be increased, upon completion of the mergers, to $375,000, $325,000 and 220,000, respectively, and the continued indemnification of former Altimmune executive officers and board members.

As of March 22, 2017, directors and executive officers of Altimmune, together with their respective affiliates, owned and were entitled to vote, in the aggregate, approximately 6.1 million shares of Altimmune capital stock, or approximately 68% of the shares of Altimmune capital stock outstanding on that date and held approximately 73% on a fully diluted basis. For a more complete discussion of the interests of the directors and executive officers of Altimmune in the mergers, please see the section of this proxy statement/prospectus/consent solicitation entitled “The Mergers — Interests of Altimmune's Directors and Executive Officers in the Mergers.”

Assumption of Altimmune Stock Options and Warrants and Altimmune Option Plan

At the Effective Time of the mergers, all of Altimmune's rights and obligations under all stock options granted pursuant to Altimmune's 2001 Employee Stock Option Plan, as amended, and its 2001 Non-Employee Stock Option Plan, as amended, that are outstanding immediately prior to the Effective Time of the mergers, will be assumed by PharmAthene. Each outstanding stock option to purchase shares of Altimmune common stock will be converted into an option to purchase a number of shares of PharmAthene common stock for which the exchanged option was exercisable multiplied by the Exchange Ratio. To the extent there remain any unexercised warrants of Altimmune at the Effective Time of the mergers, each such warrant will be converted into a warrant to purchase a number of shares of PharmAthene common stock for which the exchanged warrant was exercisable multiplied by the Exchange Ratio.

For a more complete discussion of the treatment of Altimmune options and warrants, please see the section of this proxy statement/prospectus/consent solicitation entitled “The Merger Agreement — Merger Consideration.”

Certain Material U.S. Federal Income Tax Consequences of the Mergers

The mergers are intended to qualify as a “reorganization” within the meaning of Section 368(a) of the Code and Treasury regulations promulgated thereunder. As a result of the “reorganization,” Altimmune stockholders generally will not recognize gain or loss for U.S. federal income tax purposes upon the exchange of their shares of Altimmune capital stock for shares of PharmAthene common stock in connection with the mergers. An Altimmune stockholder who perfects appraisal rights and receives cash in exchange for such stockholder's shares of Altimmune capital stock will recognize gain or loss measured by the difference between the amount of cash received and such stockholder's adjusted tax basis in those shares. PharmAthene stockholders generally will not recognize gain or loss for U.S. federal income tax purposes as a result of the mergers.

Tax matters are very complicated, and the tax consequences of the mergers to a particular PharmAthene or Altimmune stockholder will depend in part on such stockholder's circumstances. Accordingly, PharmAthene and Altimmune urge you to consult your own tax advisor for a full understanding of the tax consequences of the mergers to you, including the applicability and effect of federal, state, local and foreign income and other tax laws. For a more complete discussion of certain material U.S. federal income tax consequences of the mergers, please see the section of this proxy statement/prospectus/consent solicitation entitled “Certain Material U.S. Federal Income Tax Consequences of the Mergers.”

Regulatory Approvals

Neither PharmAthene nor Altimmune is required to make any filings or to obtain any approvals or clearances from any antitrust regulatory authorities in the United States or other countries to consummate the mergers. In the United States, PharmAthene must comply with applicable federal and state securities laws and rules and regulations of the NYSE MKT in connection with the issuance and listing of shares of PharmAthene common stock in the mergers, including the filing with the SEC of the registration statement of which this proxy statement/prospectus/consent solicitation is a part. For a more complete discussion of the regulatory approvals required in connection with the mergers, please see the section of this proxy statement/prospectus/consent solicitation entitled “The Mergers — Regulatory Approvals.”

Anticipated Accounting Treatment

Under U.S. Generally Accepted Accounting Principles ("U.S. GAAP") Accounting Standards Codification ("ASC") 805 "Business Combinations," the mergers are expected to be accounted for as a reverse merger using acquisition accounting, pursuant to which Altimmune is considered the acquiring entity for accounting purposes. As such, Altimmune expects to allocate the total purchase consideration to PharmAthene's tangible and identifiable intangible assets acquired and liabilities assumed based on their fair values at the date of the completion of the mergers. The allocation reflected in the unaudited pro forma condensed combined financial information included in this proxy statement/prospectus/consent solicitation is preliminary and subject to change.

For a more complete discussion of the anticipated accounting treatment of the mergers, please see the sections of this proxy statement/prospectus/consent solicitation entitled "The Mergers — Anticipated Accounting Treatment" and "Selected Historical and Unaudited Pro Forma Condensed Combined Financial Data."

Appraisal Rights

If the mergers are completed, Altimmune stockholders are entitled to appraisal rights under Section 262 of the DGCL. PharmAthene stockholders are not entitled to appraisal rights in connection with the mergers. For a more complete discussion of the appraisal rights, see the provisions of Section 262 of the DGCL attached to this proxy statement/prospectus/consent solicitation as Annex G, and the section of this proxy statement/prospectus/consent solicitation entitled "The Mergers — Appraisal Rights."

Comparison of Stockholder Rights

Both PharmAthene and Altimmune are Delaware corporations subject to the DGCL. The rights of PharmAthene stockholders are governed by the DGCL, PharmAthene's Certificate of Incorporation and PharmAthene's Bylaws. The rights of Altimmune stockholders are governed by the DGCL, Altimmune's Certificate of Incorporation and Altimmune's Bylaws. If the mergers are completed, Altimmune stockholders will become stockholders of PharmAthene, and their rights will be governed by the DGCL, PharmAthene's Certificate of Incorporation and PharmAthene's Bylaws. The rights of PharmAthene stockholders contained in PharmAthene Certificate of Incorporation and PharmAthene's Bylaws differ from the rights of Altimmune stockholders under Altimmune's Certificate of Incorporation and Altimmune's Bylaws, as more fully described under the section of this proxy statement/prospectus/consent solicitation entitled "Comparison of Rights of Stockholders."

SELECTED HISTORICAL AND UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL DATA

Selected Historical Financial Data of PharmAthene

The following table presents selected historical consolidated financial data for PharmAthene as of and for the fiscal years ended December 31, 2016, 2015, 2014, 2013 and 2012. The balance sheet data as of December 31, 2016 and 2015 and the statement of income data for the fiscal years ended December 31, 2016, 2015 and 2014 have been obtained from PharmAthene's audited consolidated financial statements included in PharmAthene's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, which is incorporated by reference into this proxy statement/prospectus/consent solicitation. The balance sheet data as of December 31, 2014 and 2013 and the statement of income data for the fiscal years ended December 31, 2013 and 2012 have been derived from PharmAthene's audited consolidated financial statements included in PharmAthene's Annual Report on Form 10-K for the fiscal year ended December 31, 2014, which has not been incorporated into this document by reference. The balance sheet data as of December 31, 2012 has been derived from PharmAthene's audited consolidated financial statements included in PharmAthene's Annual Report on Form 10-K for the fiscal year ended December 31, 2013, which has not been incorporated into this document by reference.

The information set forth below is not necessarily indicative of future results and should be read together with the other information contained in PharmAthene's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, including the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and related notes therein. See the section of this proxy statement/prospectus/consent solicitation entitled "Where You Can Find Additional Information" beginning on page 269.

	Year Ended December 31,				
	2016	2015	2014	2013	2012
Statements of operations data:					
Revenue	$ 5,230,196	$10,640,660	$ 10,190,205	$ 17,912,607	$25,175,887
Operating expenses:					
Research and development	4,836,035	5,133,512	9,319,828	15,290,142	19,509,629
General and administrative	11,515,071	6,222,185	10,911,724	13,279,186	11,628,732
Restructuring expense	—	2,546,159	—	—	—
Depreciation and amortization	143,437	141,604	149,958	182,487	303,916
Total operating expenses	16,494,543	14,043,460	20,381,510	28,751,815	31,442,277
Loss from operations	(11,264,347)	(3,402,800)	(10,191,305)	(10,839,208)	(6,266,390)
Other income (expense):					
Interest income (expense), net	168,150	(54,581)	(210,399)	(366,706)	(324,753)
Realization of cumulative translation adjustment	—	(229,192)	—	—	1,227,656
Change in fair value of derivative instruments	(957,070)	299,477	508,817	(444,622)	591,039
Other income-litigation	217,068,969	—	—	—	—
Other income (expense)	7,847	8,137	(762)	(6,071)	47,862
Gain on the sale of assets held for sale	—	—	—	—	—
Total other income (expense)	216,287,896	23,841	297,656	(817,399)	1,541,804
Net income (loss) before income taxes	205,023,549	(3,378,959)	(9,893,649)	(11,656,607)	(4,724,586)
Provision for income taxes	(11,169,376)	(61,746))	(61,746)	(61,746)	(195,529)
Net income (loss)	$ 193,854,173	$ (3,440,705)	$ (9,955,395)	$ (11,718,353)	$ (4,920,115)
Basic net income (loss) per share	$ 2.97	$ (0.05)	$ (0.17)	$ (0.23)	$ (0.10)
Diluted net income (loss) per share	$ 2.95	$ (0.05)	$ (0.17)	$ (0.23)	$ (0.10)
Weighted average shares used in calculation of basic net income (loss) per share	65,306,962	63,986,013	57,535,325	50,659,116	48,323,067
Weighted average shares used in calculation of diluted net income (loss) per share	65,657,802	63,986,013	57,535,325	50,659,116	48,323,067

	As of December 31,				
	2016	2015	2014	2013	2012
Balance sheet data:					
Cash and cash equivalents	$ 153,994,922	$ 15,569,813	$ 18,643,351	$ 10,480,979	$ 12,701,517
Working capital	17,432,283	15,047,425	16,668,843	7,543,127	12,307,429
Total assets	224,739,223	19,862,397	21,978,241	17,139,289	22,741,404
Total long-term liabilities	442,589	1,033,839	1,122,307	3,007,596	3,579,148
Total stockholders' equity	19,459,091	16,649,117	18,274,145	7,335,712	11,673,840

Selected Historical Financial Data of Altimmune

You should read this data together with Altimmune's consolidated financial statements and related notes included elsewhere in this proxy statement/prospectus/consent solicitation and the information under the section entitled “Altimmune's Management's Discussion and Analysis of Financial Condition and Results of Operations.”

The following selected consolidated financial data as of December 31, 2016 and for the years ended December 31, 2015 and 2016 are derived from Altimmune's audited consolidated financial statements and the accompanying notes included elsewhere in this proxy statement/prospectus/consent solicitation. Altimmune's historical results are not necessarily indicative of the results that may be expected for any future year or period.

	Year Ended December 31,	
	2015	2016
Consolidated Statements of Operations Data:		
License revenue	$ 630,952	$ 410,102
Research grants and contracts	4,023,516	2,826,073
Total revenue and grants and contracts	4,654,468	3,236,175
Operating expenses:		
Research and development	5,063,650	7,221,460
General and administrative	6,178,829	7,106,378
Total operating expenses	11,242,479	14,327,838
Loss from operations	(6,588,011)	(11,091,663)
Other (expense) income	(60,891)	4,851
Net loss	(6,648,902)	(11,086,812)
Accumulated dividends on preferred stock	(138,555)	(368,548)
Net loss attributable to common stockholders	$ (6,787,457)	$(11,455,360)
Weighted-average common shares, basic and diluted	7,688,651	9,226,376
Net loss per share attributable to common stockholders, basic and diluted	$ (0.88)	$ (1.24)

	As of December 31, 2016
Consolidated Balance Sheet Data:	
Cash	$ 2,876,113
Working capital	(983,633)
Total assets	38,400,335
Notes payable	984,579
Series B Preferred Stock	8,000
Common stock	—
Class A Common Stock	91,951
Class B Common Stock	388
Additional paid-in capital	70,941,245
Accumulated deficit	(31,259,449)
Accumulated other comprehensive loss	(7,574,812)
Total stockholders' equity	32,207,323

Selected Unaudited Pro Forma Condensed Combined Financial Data of PharmAthene and Altimmune

On January 18, 2017, PharmAthene and its wholly owned acquisition subsidiaries Merger Sub Corp and Merger Sub LLC, agreed to acquire 100% of the outstanding capital stock of Altimmune in the mergers, pursuant to the Merger Agreement. Consummation of the mergers is subject to the satisfaction or waiver of customary closing conditions, including, among other things, obtaining the requisite approvals of the stockholders of PharmAthene and Altimmune, including the approval of the reverse stock split amendment by PharmAthene's stockholders, PharmAthene having a minimum level of cash of $10.25 million at the time of closing, the completion of the Altimmune Private Placement of at least $3.5 million of gross proceeds prior to closing, a reverse stock split in a manner to be determined prior to closing, and the effectiveness of a registration statement on Form S-4 relating to the shares of PharmAthene common stock to be issued to Altimmune stockholders pursuant to the Merger Agreement. It is currently anticipated that the mergers will close during the second quarter of 2017.

The selected unaudited *pro forma* condensed combined financial data presented below is based on, and should be read in conjunction with, the historical financial statements of PharmAthene and Altimmune that are incorporated by reference or that appear elsewhere herein and the unaudited *pro forma* condensed combined financial statements that appear elsewhere herein. See the sections of this proxy statement/prospectus/consent solicitation entitled "Where You Can Find Additional Information" and "Unaudited *Pro Forma* Condensed Combined Financial Statements" for additional information.

The following selected unaudited *pro forma* condensed combined balance sheet data as of December 31, 2016 and the selected unaudited *pro forma* condensed combined statements of operations data for the year ended December 31, 2016 are based on the historical financial statements of PharmAthene, and Altimmune after giving effect to the mergers. The mergers will be accounted for as a reverse acquisition business combination, using the purchase method of accounting.

The following selected unaudited *pro forma* condensed combined statements of operations data for the year ended December 31, 2016 give effect to the mergers as if they had occurred on January 1, 2016. The selected unaudited *pro forma* condensed combined balance sheet data as of December 31, 2016 assumes that the mergers took place on that date.

These selected unaudited *pro forma* condensed combined financial data are provided for informational purposes only and are subject to a number of uncertainties and assumptions and do not purport to represent what the companies' actual performance or financial position would have been had the mergers occurred on the dates indicated and does not purport to indicate the financial position or results of operations data as of any future date or for any future period.

Unaudited Pro Forma Condensed Combined Statements of Operations, Balance Sheet and Other Data:

	Year Ended December 31, 2016
Statement of Operations Data:	
Total revenue	$ 8,466,371
Operating loss	$ (21,152,613)
Income from litigation settlement	$ 217,068,969
Net income	$ 183,970,758
Net income attributed to common stockholders	$ 183,970,758
Basic net income per share	$ 27.29
Diluted net income per share	$ 24.86

	As of December 31, 2016
Balance Sheet Data:	
Cash and cash equivalents	$ 16,593,113
Working capital	$ 4,024,986
Total assets	$ 88,457,874
Long-term liabilities	$ 7,889,278
Total stockholders' equity	$ 64,925,550

COMPARATIVE HISTORICAL AND UNAUDITED PRO FORMA PER SHARE DATA

The following unaudited *pro forma* per share information as of and for the year ended December 31, 2016 reflects the mergers and related transactions as if they had occurred on January 1, 2016. The information in the table is based on, and should be read together with, the historical consolidated financial statements and the accompanying notes of PharmAthene and Altimmune that appear elsewhere herein, the unaudited *pro forma* condensed combined financial statements that appear elsewhere herein, including the notes thereto and the information incorporated by reference herein. See the sections of this proxy statement/prospectus/consent solicitation entitled “Where You Can Find Additional Information” and “Unaudited Pro Forma Condensed Combined Financial Statements.”

The unaudited *pro forma* per share data is presented for illustrative purposes only and is not necessarily indicative of actual or future financial position or results of operations that would have been realized if the mergers had been completed as of the dates indicated.

	As of and for the Year Ended December 31, 2016
PharmAthene	
Book value per share – historical	$ 0.30
Basic net income per share – historical	$ 2.97
Diluted net income per share – historical	$ 2.95
Altimmune	
Book value per share – historical	$ 3.49
Basic net (loss) per share – historical	$ (1.24)
Diluted net (loss) per share – historical	$ (1.24)
Pro Forma Combined	
Book value per share	$ 9.63
Basic net income per share	$ 27.29
Diluted net income per share	$ 24.86

MARKET PRICE AND DIVIDEND INFORMATION

PharmAthene

PharmAthene's common stock trades on the NYSE MKT under the symbol “PIP”. The following table sets forth the range of high and low sales prices per share of PharmAthene common stock on the NYSE MKT during the periods shown.

Fiscal Year 2017	High	Low
1st Quarter (as of March 22)	$ 3.40	$ 0.63

Fiscal Year 2016	High	Low
4th Quarter Ended December 31	$ 3.25	$ 2.75
3rd Quarter Ended September 30	$ 2.91	$ 2.43
2nd Quarter Ended June 30	$ 2.49	$ 1.96
1st Quarter Ended March 31	$ 1.97	$ 1.56

Fiscal Year 2015	High	Low
4th Quarter Ended December 31	$ 1.95	$ 1.33
3rd Quarter Ended September 30	$ 1.93	$ 1.30
2nd Quarter Ended June 30	$ 1.84	$ 1.55
1st Quarter Ended March 31	$ 1.77	$ 1.49

Fiscal Year 2014	High	Low
4th Quarter Ended December 31	$ 1.84	$ 1.55
3rd Quarter Ended September 30	$ 2.38	$ 1.26
2nd Quarter Ended June 30	$ 1.79	$ 1.38
1st Quarter Ended March 31	$ 2.09	$ 1.80

The closing price of PharmAthene common stock on January 18, 2017, the last trading day before the public announcement of the Merger Agreement, was $3.40 per share. The closing price on February 6, 2017, the first trading day after the payment of the special one-time cash dividend of $2.91 per share to PharmAthene stockholders on February 3, 2017, was $1.01. The closing price of PharmAthene common stock on March 29, 2017, the last practicable trading day prior to the filing of this registration statement, was $0.79 per share.

As of March 22, 2017, there were 36 record holders of PharmAthene common stock. The number of record holders is based on the actual number of holders registered on the books of PharmAthene's transfer agent and does not reflect holders of shares in “street name” or persons, partnerships, associations, corporations or other entities identified in security position listings maintained by depository trust companies.

Altimmune

Altimmune is a privately-held company, and there is no established trading market for its securities. As of March 22, 2017, there were of 9,195,906 shares of its Class A Common Stock, 99,513 restricted shares of Class A Common Stock, 38,836 shares of its Class B Common Stock and 800,000 shares of its Series B Convertible Preferred Stock outstanding, and there were approximately 111 holders of record of Altimmune capital stock.

Upon the conversion of the convertible securities to be issued in the Altimmune Private Placement prior to the Effective Date, there will be an additional 527,057 shares of Altimmune Class A Common Stock outstanding.

Dividends

Other than for the PharmAthene Board of Directors' declaration of a special one-time cash dividend of $2.91 per share of PharmAthene common stock paid on February 3, 2017 PharmAthene has never paid any dividends on its common stock.

Altimmune has never declared or paid any cash dividends on its capital stock nor does it intend to do so in the foreseeable future.

RISK FACTORS

An investment in PharmAthene common stock involves a high degree of risk. Before you vote or provide your written consent in favor of any of the proposals contained in this proxy statement/prospectus/consent solicitation, you should carefully consider the risks described below, those described in the section of this proxy statement/prospectus/consent solicitation entitled "Cautionary Statement Regarding Forward-Looking Statements" and the other information contained in this proxy statement/prospectus/consent solicitation or in the documents of PharmAthene incorporated by reference into this proxy statement/prospectus/consent solicitation, particularly the risk factors set forth in the documents of PharmAthene incorporated by reference into this proxy statement/prospectus/consent solicitation. Please see the section entitled "Where You Can Find Additional Information" beginning on page 269 of this proxy statement/prospectus/consent solicitation. In addition to the risks set forth below, new risks may emerge from time to time and it is not possible to predict all risk factors, nor can Altimmune or PharmAthene assess the impact of all factors on the mergers and the combined company following the mergers or the extent to which any factor or combination of factors may cause actual results to differ materially from those contained in or implied by any forward-looking statements. If any of the risks described below or in the documents incorporated by reference into this proxy statement/prospectus/consent solicitation actually materializes, the businesses, financial condition, results of operations, prospects or stock prices of PharmAthene, Altimmune and/or the combined company could be materially and adversely affected.

Risks Related to the Proposed Mergers

Because the Exchange Ratio is fixed and will not be adjusted in the event of changes in the price or valuation of either PharmAthene's or Altimmune's common stock, the market value of the shares of PharmAthene common stock to be received by the Altimmune stockholders in connection with the mergers is subject to change prior to the completion of the mergers.

The Exchange Ratio is fixed such that, upon completion of the mergers, each of Altimmune's outstanding shares of common stock and preferred stock (excluding Altimmune treasury shares, shares of Altimmune owned by PharmAthene or its subsidiaries or dissenting shares) will be converted into the right to receive a number of shares of PharmAthene common stock such that the holders of outstanding equity of Altimmune immediately prior to the Effective Time will own 58.2% of the outstanding equity of PharmAthene immediately following the Effective Time and holders of outstanding equity of PharmAthene immediately prior to the Effective Time will own 41.8% of the outstanding equity of PharmAthene immediately following the Effective Time, in each case, on a fully diluted and as-converted to common stock basis. There will be no adjustment to the Exchange Ratio for the stock consideration based on changes in the market price of either the shares or business of PharmAthene common stock or Altimmune common stock prior to completion of the mergers. Accordingly, the market value of the shares of PharmAthene common stock that Altimmune stockholders will be entitled to receive upon completion of the mergers with respect to the merger consideration will depend on the market value of the shares of PharmAthene common stock at the time of the completion of the mergers and could vary significantly from the market value on the date of this proxy statement/prospectus/consent solicitation, the date of the PharmAthene special meeting or the date of the Altimmune written consent of stockholders. In addition, the market value of the shares of PharmAthene common stock that Altimmune stockholders will be entitled to receive in connection with the mergers will continue to fluctuate after the completion of the mergers and holders of PharmAthene common stock could lose the value of their investment therein.

Such variations could be the result of changes in the business, operations or products of PharmAthene or Altimmune prior to the mergers and PharmAthene following the mergers, market assessments of the likelihood that the mergers will be completed or the timing of the completion of the mergers, regulatory considerations, general market and economic conditions and other factors both within and beyond the control of PharmAthene or Altimmune. Because the date that the mergers will be completed will be later than the date of the PharmAthene special meeting and the Altimmune written consent of stockholders, at the time of the PharmAthene special meeting or date of the written consent you will not know the value of the PharmAthene common stock that Altimmune stockholders will receive upon completion of the mergers with respect to the merger consideration.

The market price for PharmAthene common stock may be affected by factors different from those that historically have affected the valuation of Altimmune.

Upon completion of the mergers, Altimmune stockholders will become PharmAthene stockholders. PharmAthene's business differs from that of Altimmune, and accordingly the results of operations of PharmAthene will be affected by certain factors that are different from those currently affecting the results of operations of Altimmune. For a discussion of the businesses of PharmAthene and Altimmune and of some important factors to consider in connection with those businesses, see the sections of this proxy statement/prospectus/consent solicitation entitled “Altimmune's Business” and “Where You Can Find Additional Information” beginning on page 269 for the location of information incorporated by reference herein.

In the event that the combined company fails to satisfy any of the listing requirements of the NYSE MKT, a condition to the mergers will not be satisfied.

The obligation of Altimmune to effect the mergers is conditioned on the combined company’s common stock being listed on the NYSE MKT. For listing on the NYSE MKT, the combined company will be required to satisfy the initial listing criteria and thereafter comply with the continued listing requirements, including the minimum market capitalization standard set forth in applicable NYSE MKT rules, the requirement that the combined company’s shares not trade “for a substantial period of time at a low price per share” or that the combined company not dispose of its principal operating assets or discontinue a substantial portion of the combined company’s operations, among other requirements.

The issuance of shares of PharmAthene common stock to Altimmune stockholders in the mergers will dilute substantially the voting power of current PharmAthene stockholders.

Pursuant to the terms of the Merger Agreement and Exchange Ratio, holders of outstanding equity of Altimmune immediately prior to the Effective Time will own 58.2% of the outstanding equity of PharmAthene immediately following the Effective Time and holders of outstanding equity of PharmAthene immediately prior to the Effective Time will own 41.8% of the outstanding equity of PharmAthene immediately following the Effective Time, in each case, on a fully diluted basis.

Accordingly, the issuance of shares of PharmAthene common stock to Altimmune stockholders in the mergers will reduce significantly the relative voting power of each share of PharmAthene common stock held by current PharmAthene stockholders. Consequently, PharmAthene stockholders as a group will have significantly less influence over the management and policies of the combined company after the mergers than prior to the mergers.

There is no assurance when or even if the mergers will be completed. Failure to obtain required approvals necessary to satisfy closing conditions may delay or prevent completion of the mergers.

Completion of the mergers is subject to the satisfaction or waiver of a number of conditions, including the requisite approvals by the stockholders of PharmAthene and the stockholders of Altimmune. There can be no assurance that PharmAthene or Altimmune will be able to satisfy the closing conditions or that closing conditions beyond their control will be satisfied or waived. If the mergers are not completed, PharmAthene will need to consider other strategic alternatives to grow and diversify its business to enhance stockholder value.

Because the lack of a public market for Altimmune's outstanding shares makes it difficult to evaluate the fairness of the mergers, Altimmune stockholders may receive consideration in the mergers that is greater than or less than the fair market value of the Altimmune shares.

The outstanding capital stock of Altimmune is privately held and is not traded in any public market. The lack of a public market makes it extremely difficult to determine the fair market value of Altimmune shares. Since the percentage of PharmAthene's equity to be issued to Altimmune stockholders was determined based on negotiations between the parties, it is possible that the value of the PharmAthene common stock to be issued in connection with the mergers will be greater than the fair market value of Altimmune shares. Alternatively, it is possible that the value of the shares of PharmAthene common stock to be issued in connection with the mergers will be less than the fair market value of Altimmune shares.

Because the mergers will be completed after the date of the PharmAthene special meeting of stockholders and the Altimmune written consent of stockholders, at the time of the special meeting or written consent, you will not know the exact number of shares of PharmAthene common stock that the Altimmune stockholders will receive upon completion of the mergers.

Subject to the terms of the Merger Agreement, holders of outstanding equity of Altimmune immediately prior to the Effective Time will own 58.2% of the outstanding equity of PharmAthene immediately following the Effective Time and holders of outstanding equity of PharmAthene immediately prior to the Effective Time will own 41.8% of the outstanding equity of PharmAthene immediately following the Effective Time, in each case, on a fully diluted basis. Please see the section of this proxy statement/prospectus/consent solicitation entitled “The Merger Agreement — Merger Consideration.” Accordingly, the exact number of shares of PharmAthene common stock that Altimmune stockholders will receive upon completion of the mergers will not be available at the time of the PharmAthene special meeting and the Altimmune written consent of stockholders.

PharmAthene and Altimmune executive officers and directors may have interests in the mergers that are different from, or in addition to, those of PharmAthene stockholders and Altimmune stockholders generally.

The executive officers and directors of PharmAthene and Altimmune may have interests in the mergers that are different from, or are in addition to, those of PharmAthene stockholders and Altimmune stockholders generally. The directors of the combined company will consist of three current directors from PharmAthene's Board of Directors, and four current directors from Altimmune's Board of Directors. Altimmune's executive officers will continue to serve as executive officers of the combined company. Altimmune’s chief executive officer may be entitled to an option to purchase a number of shares of common stock of the combined company equal to the number of shares issuable to a holder of 133,395 shares of Altimmune Common Stock prior to the merger. Further, certain PharmAthene executive officers may receive change in control payments and certain Altimmune executive officers will receive base salary increases in connection with the mergers. In addition, the directors and executive officers of PharmAthene and Altimmune also have certain rights to indemnification and to directors' and officers' liability insurance that will be provided by the combined company following completion of the mergers. Please see the sections of this proxy statement/prospectus/consent solicitation entitled “The Mergers — Interests of PharmAthene's Executive Officers and Directors in the Mergers” and “The Mergers — Interests of Altimmune's Directors and Executive Officers in the Mergers.”

The pendency of the mergers could have an adverse effect on the trading price of PharmAthene common stock and the business, financial condition, results of operations or business prospects for PharmAthene, Altimmune and the combined company.

While there have been no significant adverse effects to date, the pendency of the mergers could disrupt PharmAthene's and Altimmune's businesses in the following ways, including:

- third parties may seek to terminate or renegotiate their relationships with PharmAthene or Altimmune as a result of the mergers, whether pursuant to the terms of their existing agreements with PharmAthene or Altimmune or otherwise; and
- the attention of PharmAthene and Altimmune management may be directed toward completion of the mergers and related matters and may be diverted from the day-to-day business operations of their respective companies, including from other opportunities that otherwise might be beneficial to PharmAthene and Altimmune.

Should they occur, any of these matters could adversely affect the trading price of PharmAthene common stock or harm the financial condition, results of operations or business prospects of PharmAthene, Altimmune and the combined company.

During the pendency of the mergers, PharmAthene and Altimmune may be unable to enter into a business combination with another party because of restrictions in the Merger Agreement.

The Merger Agreement restricts the ability of PharmAthene to make acquisitions or complete other transactions during the pendency of the mergers. While the Merger Agreement is in effect, subject to limited

exceptions, PharmAthene is prohibited from soliciting, initiating, encouraging or taking actions designed to facilitate any inquiries or the making of any proposal or offer that could lead to such party entering into certain extraordinary transactions with any third party, such as a sale of assets, an acquisition of equity interest, a tender offer for capital stock or a merger or other business combination outside the ordinary course of business. Any such transactions could be favorable to PharmAthene stockholders. Please see the sections of this proxy statement/prospectus/consent solicitation entitled “The Merger Agreement — No Solicitation,” “The Merger Agreement — PharmAthene Stockholder Approval,” “The Merger Agreement — Altimmune Stockholder Approval” and “The Merger Agreement — Termination.”

In addition, certain of PharmAthene’s stockholders, who beneficially owned approximately 4,889,087 of the outstanding shares of PharmAthene common stock (7.01% of the outstanding stock as of March 22, 2017) entered into the PharmAthene Voting Agreement, pursuant to which such PharmAthene stockholders will agree to vote their shares of PharmAthene common stock in favor of the adoption of the Merger Agreement and against any amendment of PharmAthene's certificate of incorporation or bylaws or any other proposal or transaction involving PharmAthene, the effect of which amendment or other proposal or transaction is to delay, impair, prevent or nullify the mergers or the transactions contemplated by the Merger Agreement or change in any manner the voting rights of any capital stock of PharmAthene. The signatories thereto may not sell or transfer their shares other than under specified circumstances pursuant to the PharmAthene Voting Agreement. The PharmAthene Voting Agreement will terminate upon, among other things, the earlier of the Effective Time or termination of the Merger Agreement. Please see the section of this proxy statement/prospectus/consent solicitation entitled “Voting and Other Agreements — PharmAthene Voting Agreement.”

These provisions might discourage an otherwise interested third party from considering or proposing an acquisition of PharmAthene, even one that may be deemed of greater value than the mergers to PharmAthene stockholders.

The mergers may be completed even though material adverse changes may result from the announcement of the mergers, industry-wide changes or other causes.

In general, either party can refuse to complete the mergers if there is a material adverse change affecting the other party between January 18, 2017, the date of the Merger Agreement, and the closing of the mergers. However, some types of changes do not permit either party to refuse to complete the mergers, even if such changes would have a material adverse effect on PharmAthene or Altimmune. If adverse changes occur but PharmAthene and Altimmune must still complete the mergers, the combined company's stock price may suffer.

The rights of Altimmune stockholders who become PharmAthene stockholders in the mergers will be governed by PharmAthene's Certificate of Incorporation and Bylaws.

Altimmune stockholders who receive shares of PharmAthene common stock in the mergers will become PharmAthene stockholders. As a result, Altimmune stockholders who become stockholders in PharmAthene will be governed by PharmAthene's Certificate of Incorporation (as proposed to be amended) and PharmAthene's Bylaws, rather than being governed by Altimmune's Certificate of Incorporation and Altimmune's Bylaws. At the Effective Time, the outstanding shares of Altimmune capital stock will be converted into the right to receive shares of PharmAthene common stock. For more information, please see the section of this proxy statement/prospectus/consent solicitation entitled “Comparison of Rights of Stockholders.”

If the mergers do not qualify as a reorganization under Section 368(a) of the Code or are otherwise taxable to U.S. holders of Altimmune capital stock, then such holders may be required to pay substantial U.S. Federal income taxes.

Each of Proskauer Rose LLP, tax counsel to Altimmune, and Dentons US LLP, tax counsel to PharmAthene, will have delivered an opinion that the mergers will be treated for U.S. federal income tax purposes as a reorganization within the meaning of Section 368(a) of the Code. These opinions are based on certain assumptions and representations as to factual matters from Altimmune, PharmAthene, Merger Sub

Corp and Merger Sub LLC, as well as certain covenants and undertakings by Altimmune, PharmAthene and Merger Sub Corp and Merger Sub LLC. If any of the assumptions, representations, covenants or undertakings is incorrect, incomplete, inaccurate or is violated in any material respect, the validity of the conclusions reached by counsel in their opinions would be jeopardized. Additionally, an opinion of counsel represents counsel's best legal judgment but is not binding on the United States Internal Revenue Service ("IRS") or any court, so there can be no certainty that the IRS will not challenge the conclusions reflected in the opinions or that a court will not sustain such a challenge. If the IRS or a court determines that the mergers should not be treated as a reorganization, a holder of Altimmune capital stock would recognize taxable gain or loss upon the exchange of Altimmune capital stock for PharmAthene common stock pursuant to the mergers. Please see the section of this proxy statement/prospectus/consent solicitation entitled "The Mergers — Certain Material U.S. Federal Income Tax Consequences of the Mergers."

PharmAthene and Altimmune have incurred and will continue to incur significant transaction costs in connection with the mergers.

PharmAthene and Altimmune have incurred and will continue to incur significant transaction costs in connection with the mergers. PharmAthene and Altimmune estimate that they will incur aggregate direct transaction costs of approximately $3.6 million associated with the mergers, including costs incurred through March 22, 2017, and additional costs associated with the commencement of the combined company's operation as a public company, which cannot be estimated accurately at this time. The costs associated with the mergers may increase if any Altimmune stockholders elect to dissent from the mergers and seek payment of the fair value of their shares as permitted by Delaware law. If the total costs of the mergers exceed PharmAthene's and Altimmune's estimates, the ability of the combined company to achieve its business plan will be adversely affected.

The combined company's ability to utilize PharmAthene's or Altimmune's net operating loss and tax credit carryforwards in the future may be subject to substantial limitations and may be further limited as a result of the mergers.

Under Section 382 of the Code, if a corporation undergoes an "ownership change" (generally defined as a greater than 50 percent change (by value) in its equity ownership over a three-year period), the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes to offset its post-change income may be limited. Further, if the historic business of PharmAthene or Altimmune is not treated as being continued by the combined entity for the two-year period beginning on the date of the mergers (referred to as the "continuity of business requirement"), the pre-transaction net operating loss carryforward deductions of PharmAthene or Altimmune (as the case may be) may become substantially reduced or unavailable for use by the combined company. Prior to the mergers, each of PharmAthene and Altimmune may have undergone an "ownership change", and it is expected that the mergers will likely result in an "ownership change" of each of PharmAthene and Altimmune. A corporation that experiences an ownership change will generally be subject to an annual limitation on its use of pre-ownership change net operating loss carryforwards (and certain other pre-change tax attributes) equal to, in general, the product of the long-term tax-exempt rate (as published by the IRS for the month in which the ownership change occurs, which rate is 2.09% for March 2017) and the value of the corporation's outstanding stock immediately before the ownership change (subject to certain adjustments), increased by certain built-in gains held by the corporation at the time of the ownership change that are recognized in the five-year period after the ownership period. Accordingly, the combined company's ability to utilize PharmAthene's and Altimmune's pre-merger net operating loss and tax credit carryforwards, which for PharmAthene was, as of December 31, 2016, approximately $1 million, which itself is subject to a previous ownership change of PharmAthene, and for Altimmune was, as of December 31, 2016, approximately $18.0 million, may be substantially limited. Altimmune's U.S. federal net operating loss carryforwards of approximately $18.0 million will begin to expire in various years beginning in 2020. Altimmune also has approximately $11.9 million of state net operating loss carryforwards that will begin to expire in 2030. As of December 31, 2016, Altimmune also had UK and France net operating losses of $21.6 million and $638,000, respectively. Although not subject to expiration so long as Altimmune UK and Altimmune France continue in the same trade or business, pre-acquisition UK and France net operating losses could be limited under certain circumstances, as determined under applicable tax laws in the United Kingdom and France. These limitations, in turn, could result in increased future tax

payments for the combined company, which could have a material adverse effect on the business, financial condition or results of operations of the combined company.

Under Section 384 of the Code, available net operating loss carryovers of PharmAthene or Altimmune may not be available to offset certain gains arising after the mergers from assets held by the other corporation at the Effective Time of the mergers. This limitation will apply to the extent that the gain is attributable to an unrealized built-in-gain in the assets of PharmAthene or Altimmune existing at the Effective Time of the mergers. To the extent that any such gains are recognized in the five-year period after the mergers upon the disposition of any such assets, the net operating loss carryovers of the other corporation will not be available to offset such gains (but the net operating loss carryovers of the corporation that owned such assets will not be limited by Section 384 of the Code although they may be subject to other limitations under Section 382 of the Code as described above).

The anticipated benefits of the mergers may not be realized fully or at all or may take longer to realize than expected.

The mergers involve the integration of two companies that have previously operated independently with principal offices in two distinct locations. Due to legal restrictions, PharmAthene and Altimmune are able to conduct only limited planning regarding the integration of the two companies prior to completion of the mergers. Significant management attention and resources will be required to integrate the two companies. Delays in this process could adversely affect the combined company's business, financial results, financial condition, and stock price following the mergers. Even if the combined company were able to integrate the business operations successfully, there can be no assurance that this integration will result in the realization of the full benefits of synergies, innovation and operational efficiencies that may be possible from this integration and that these benefits will be achieved within a reasonable period of time.

Certain events could reduce PharmAthene's expected tax refunds, which could have a material adverse effect on the cash flow and operations of PharmAthene and its subsidiaries

PharmAthene expects to receive a refund of U.S. federal and state income taxes that were paid for the 2016 taxable year, which refund could be up to approximately $8,000,000 in cash that would be received over the twenty-four (24) months following the mergers. The refund would be attributable to the carryback of net operating losses generated by PharmAthene and its subsidiaries after the closing of the mergers. If future net operating losses are less than anticipated, or if the IRS makes an upward adjustment to PharmAthene's taxable income for 2016 or prior periods, the refund may be substantially less than is expected. This could have a material adverse effect on the cash flow and operations of PharmAthene and its subsidiaries.

Risks Related to the Combined Company Following the Mergers

The trading price of the combined company's common stock may be subject to significant fluctuations and volatility, and the stockholders of the combined company may be unable to resell their shares at a profit.

While PharmAthene's common stock has an observable trading history, PharmAthene's common stock, on a post mergers basis, may be expected to trade as if there had never been a public market for the combined company's common stock. The market price of the combined company's common stock could be subject to significant fluctuation following the mergers. Market prices for securities of early-stage pharmaceutical, medical device, biotechnology and other life science companies have historically been particularly volatile. Some of the factors that may cause the market price of the combined company's common stock to fluctuate include:

- its ability to develop, obtain regulatory clearances or approvals for and market new and enhanced products on a timely basis;
- changes in governmental regulations or in the status of its regulatory approvals, clearances or future applications;
- its announcements or its competitors' announcements regarding new products, product enhancements, significant contracts, acquisitions or strategic investments;
- quarterly variation in the combined company's or its competitors' results of operations;

- changes in earnings estimates or recommendations by securities analysts, if any, who cover the combined company's stock;
- failure to meet estimates or recommendation by securities analysts, if any, who cover the combined company's stock;
- changes in healthcare policy, changes in the government's emphasis on combating bioterrorism or other changes that will make it more challenging for the combined company to receive government funding;
- product liability claims or other litigation involving the combined company;
- accusations that the combined company has violated a law or regulation;
- sales of large blocks of the combined company's common stock, including sales by the combined company's executive officers, directors and significant stockholders;
- disputes or other developments with respect to intellectual property rights;
- changes in accounting principles; and
- general market conditions and other factors, including factors unrelated to the combined company's operating performance or the operating performance of its competitors.

In addition, if securities class action litigation is initiated against the combined company, it would incur substantial costs and its management's attention would be diverted from operations. All of these factors could cause the price of the combined company's common stock to decline, and you may lose some or all of your investment.

Moreover, the stock markets in general have experienced substantial volatility that has often been unrelated to the operating performance of individual companies. These broad market fluctuations may also adversely affect the trading price of the combined company's common stock.

Future results of the combined company may differ materially from the unaudited pro forma financial statements presented in this proxy statement/prospectus/consent solicitation.

The future results of the combined company may be materially different from those shown in the unaudited pro forma condensed combined financial statements presented in this proxy statement/prospectus/consent solicitation, which show only a combination of the historical results of PharmAthene and Altimmune. PharmAthene and Altimmune expect to incur significant costs associated with completion of the mergers and combining the operations of the two companies. Furthermore, these costs may decrease the capital that the combined company could use for continued development of the combined company's business in the future or may cause the combined company to seek to raise new capital sooner than expected.

The combined company plans to issue additional equity securities in the future, which may result in dilution to existing investors.

Within 135 days of the date of the closing of the mergers, certain Altimmune stockholders have irrevocably committed to participate in the Post-Closing Private Placement, in which not less than an aggregate of $5.0 million in gross proceeds are to be received by the combined company. If the combined company completes a public offering of common stock during such 135-day period, then the purchase price of the shares acquired in the Post-Closing Private Placement will be at the same price as the shares sold in such public offering. Such an equity offering will result in dilution to holders of PharmAthene common stock immediately prior to the Effective Time.

To the extent the combined company raises additional capital by issuing equity securities, including in a debt financing where the combined company issues convertible notes or notes with warrants, the combined company's stockholders may experience substantial dilution. The combined company may, from time to time, sell common stock in one or more transactions at prices and in a manner it determines. If the combined company sells common stock, existing stockholders may be materially diluted. In addition, new investors could gain rights superior to existing stockholders, such as liquidation and other preferences. In addition, the

number of shares available for future grant under PharmAthene's equity compensation plans may be increased in the future. In addition, the combined company will also have warrants outstanding to purchase shares of capital stock. The combined company's stockholders will incur dilution upon exercise of any outstanding stock options or warrants.

All of PharmAthene's outstanding shares of common stock are, and any shares that are issued in the mergers will be, freely tradable without restrictions or further registration under the Securities Act of 1933, as amended (the "Securities Act"), except for any shares subject to stockholder agreements with lock-up provisions executed in connection with the mergers and any shares held by affiliates, as defined in Rule 144 under the Securities Act. Rule 144 defines an affiliate as a person who directly, or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, the combined company and would include persons such as the combined company's directors and executive officers.

The concentration of the capital stock ownership with insiders of the combined company will likely limit the ability of other stockholders of the combined company to influence corporate matters.

Based on information available to PharmAthene as of March 22, 2017, following the mergers, the executive officers, directors, five percent or greater stockholders, and their respective affiliated entities of the combined company are expected to beneficially own, in the aggregate, approximately 48.3% of the combined company's outstanding common stock. As a result, these stockholders, acting together, have control over most matters that require approval by the combined company's stockholders, including the election of directors and approval of significant corporate transactions. Corporate actions might be taken even if other stockholders oppose them. This concentration of ownership might also have the effect of delaying or preventing a corporate transaction that other stockholders may view as beneficial.

If securities analysts do not publish research or reports about the business of the combined company, or if they publish negative evaluations, the price of the combined company's common stock could decline.

The trading market for the combined company's common stock may be impacted by the availability or lack of research and reports that third-party industry or financial analysts publish about the combined company. There are many large, publicly traded companies active in the biopharmaceutical industry, which may mean it will be less likely that the combined company receives widespread analyst coverage. Furthermore, if one or more of the analysts who do cover the combined company downgrade its stock, its stock price would likely decline. If the combined company does not receive adequate coverage by reputable analysts that have an understanding of the combined company's business and industry, it could fail to achieve visibility in the market, which in turn could cause its stock price to decline.

Anti-takeover provisions under Delaware law could make an acquisition of the combined company, which may be beneficial to the stockholders of the combined company, more difficult and may prevent attempts by the stockholders to replace or remove management.

The combined company will be subject to the Delaware laws regulating corporate takeovers, which, with limited exceptions, prohibit a "target corporation" from engaging in certain "significant business transactions" for a period of five years after the share acquisition by an acquiring person, unless (i) the prohibited transaction or the acquiring person's purchase of shares was approved by a majority of the members of the target corporation's Board of Directors prior to the acquiring person's share acquisition or (ii) the prohibited transaction was both approved by the majority of the members of the target corporation's board and authorized at a stockholder meeting by at least two-thirds of the outstanding voting shares (excluding the acquiring person's shares) at or subsequent to the acquiring person's share acquisition. An "acquiring person" is defined as a person or group of persons that beneficially owns 10% or more of the voting securities of the target corporation. Such prohibited transactions include, among other things:

- certain mergers or consolidations with, dispositions of assets to, or issuances of stock to or redemptions of stock from, the acquiring person;
- termination of 5% or more of the employees of the target corporation as a result of the acquiring person's acquisition of 10% or more of the shares;
- allowing the acquiring person to receive any disproportionate benefit as a stockholder; and

- liquidating or dissolving the target corporation.

After the five-year period, certain “significant business transactions” are permitted, as long as they comply with certain “fair price” provisions of the Delaware statute or are approved by a majority of the outstanding shares other than those of which the acquiring person has beneficial ownership. A corporation may not “opt out” of this statute.

As such, these laws could prohibit or delay mergers or a change in control and may discourage attempts by other companies to acquire the combined company.

In addition, following the merger, the combined company's Certificate of Incorporation and Bylaws will contain provisions, such as undesignated preferred stock, that could make it more difficult for a third party to acquire the combined company without the consent of its Board of Directors. Further, the combined company's Bylaws require advance notice of stockholder proposals and nominations and impose restrictions on the persons who may call special stockholder meetings. These provisions may have the effect of preventing or hindering any attempts by the stockholders of the combined company to replace its Board of Directors or management.

Although PharmAthene and Altimmune expect that the mergers will result in benefits to the combined company, the combined company may not realize those benefits because of various challenges.

PharmAthene and Altimmune may not be able to fully realize the anticipated benefits of the mergers. PharmAthene and Altimmune believe that the mergers will result in greater returns for the PharmAthene and Altimmune stockholders than if each company remained as a standalone entity. However, the integration of a new company is a complex, costly and time-consuming process. This process may disrupt the business of either or both of the companies, and may not result in the full benefits expected by PharmAthene and Altimmune. Delays in the integration process could adversely affect the combined company’s business, financial results, financial condition, and stock price following the mergers. There can be no assurance that the combination of PharmAthene and Altimmune will result in the realization of the anticipated benefits from the mergers.

Subsequent to the consummation of the mergers, the combined company may be required to take write-downs or write-offs, restructuring and impairment or other charges that could have a significant negative effect on its financial condition, results of operations and stock price, which could cause you to lose some or all of your investment.

Although PharmAthene and Altimmune have conducted due diligence on each other, there can be no assurances that their diligence revealed all material issues that may be present in the other company’s business, that all material issues through a customary amount of due diligence will be uncovered, or that factors outside of PharmAthene’s and Altimmune’s control will not later arise. As a result, the combined company may be forced to later write-down or write-off assets, restructure operations, or incur impairment or other charges that could result in losses. Even if due diligence successfully identifies certain risks, unexpected risks may arise and previously known risks may materialize in a manner not consistent with each company’s preliminary risk analysis. Even though these charges may be non-cash items and not have an immediate impact on liquidity, the fact that the combined company reports charges of this nature could contribute to negative market perceptions about PharmAthene or its securities. In addition, charges of this nature may make future financing difficult to obtain on favorable terms or at all.

The combined company may not be able to timely and effectively implement controls and procedures required by Section 404 of the Sarbanes-Oxley Act of 2002 that will be applicable to the combined company after the mergers.

Altimmune is not currently subject to Section 404 of the Sarbanes-Oxley Act of 2002. However, following the mergers, the combined company will be subject to Section 404 of the Sarbanes-Oxley Act of 2002. The standards required for a public company under Section 404 of the Sarbanes-Oxley Act of 2002 are significantly more stringent than those required of Altimmune as a privately held company. Management may not be able to effectively and timely implement controls and procedures that adequately respond to the increased regulatory compliance and reporting requirements that will be applicable to the combined company

after the mergers. If management is not able to implement the additional requirements of Section 404 of the Sarbanes-Oxley Act of 2002 in a timely manner or with adequate compliance, it may not be able to assess whether its internal control over financial reporting is effective, which may subject the combined company to adverse regulatory consequences and could harm investor confidence and the market price of the combined company's common stock.

If the mergers are consummated, the business operations, strategies and focus of PharmAthene will fundamentally change, and these changes may not result in an improvement in the value of its common stock.

Following the mergers, it is expected that the combined company's primary products will be Altimmune's product candidates, NasoVAX, HepTcell, NasoShield and SparVax-L. Consequently, if the mergers are consummated, an investment in PharmAthene's common stock will primarily represent an investment in the business operations, strategies and focus of Altimmune. All of Altimmune's product candidates are still under development and may never be approved for sale or successfully commercialized. The failure to successfully commercialize one or more of Altimmune's current product candidates will significantly diminish the anticipated benefits of the mergers and have a material adverse effect on the business of the combined company. We cannot assure you that Altimmune's business operations, strategies or focus will be successful following the mergers, and the mergers could depress the value of PharmAthene's common stock.

The pro forma financial statement included in this proxy statement/prospectus/consent solicitation is presented for illustrative purposes only and may not be an indication of the combined company's financial condition or results of operations following the completion of the mergers.

The pro forma financial statement contained in this proxy statement/prospectus/consent solicitation is presented for illustrative purposes only and may not be an indication of the combined company's financial condition or results of operations following the completion of the mergers or reflecting the ITS acquisition for several reasons. See "Selected Unaudited Pro Forma Condensed Combined Financial Data of PharmAthene and Altimmune." For example, the pro forma financial statement has been derived from Altimmune's and ITS's historical financial statements and PharmAthene's historical financial statements, and certain adjustments and assumptions have been made regarding the combined company after giving effect to the ITS acquisition and the mergers. The information upon which these adjustments and assumptions have been made is preliminary, and these kinds of adjustments and assumptions are difficult to make with accuracy. Moreover, the actual financial condition and results of operations of the combined company following the completion of the mergers may not be consistent with, or evident from, this pro forma financial statement.

In addition, the assumptions used in preparing the pro forma financial statement may not prove to be accurate, and other factors may affect the combined company's financial condition or results of operations following the completion of the mergers. Any potential decline in the combined company's financial condition or results of operations may cause significant variations in the stock price of the combined company.

Risks Relating to PharmAthene's Business

You should read and consider risk factors specific to PharmAthene's business that will also affect the combined company after the mergers. These risks are described in the section entitled "Risk Factors" in PharmAthene's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, and in other documents incorporated by reference into this proxy statement/prospectus/consent solicitation. Please see the section entitled "Where You Can Find Additional Information" on page 269 of this proxy statement/prospectus/consent solicitation for the location of information incorporated by reference herein.

Risks Related to Altimmune

You should consider the following factors in evaluating whether to approve the proposals described in this proxy statement/prospectus/consent solicitation. These factors should be considered in conjunction with the other information included by PharmAthene and Altimmune in this proxy statement/prospectus/consent solicitation. The risk factors relating to Altimmune will also apply to the combined company going forward because a substantial portion of the business of the combined company will be Altimmune's business.

Risks Related to Altimmune's Business, Product Development and Clinical Trials

Altimmune has incurred significant losses since its founding and anticipates that it will continue to incur significant losses for the foreseeable future and may never achieve or maintain profitability.

Altimmune is a clinical-stage biotechnology company and it has not yet generated revenues from product sales. To date, substantially all of Altimmune's revenues have been derived from grants and contracts with governmental agencies, primarily its BARDA contract for its anthrax vaccine product candidate. Altimmune has incurred net losses in most periods since its inception, including a net loss of $6.6 million for the year ended December 31, 2015 and a net loss of $11.1 million for the year ended December 31, 2016. As of December 31, 2016, Altimmune had an accumulated deficit of $31.3 million. To date, Altimmune has not received regulatory approvals for any products or generated any revenues from the sale of products, and Altimmune does not expect to generate any product revenues in the foreseeable future. Altimmune does not know whether or when it will generate product revenues or become profitable.

Altimmune has devoted most of its financial resources to research and development, including preclinical and clinical development of its product candidates. Altimmune has not completed pivotal clinical trials for any product candidate. Altimmune's leading product candidates remain in early stage clinical development, and it will be several years, if ever, before Altimmune has a product candidate ready for commercialization. Even if Altimmune obtains regulatory approval to market a product candidate, its future revenues will depend upon the size of any markets in which its product candidates have received approval, its ability to achieve sufficient market acceptance, reimbursement from third-party payers and other factors.

The net losses Altimmune incurs may fluctuate significantly from quarter to quarter and year to year, such that a period-to-period comparison of its results of operations may not be a good indication of its future performance. In any particular quarter or quarters, Altimmune's operating results could be below the expectations of securities analysts or investors, which could cause its stock price to decline.

Altimmune's profitability depends on its ability to develop and commercialize its current and future product candidates.

To become and remain profitable, Altimmune must succeed in developing and eventually commercializing products that generate significant revenue. This will require Altimmune to be successful in a range of challenging activities, including completing preclinical studies and clinical trials of its product candidates, discovering additional product candidates, obtaining regulatory approval for these product candidates, forming strategic partnerships and alliances with third parties and manufacturing, marketing and selling any products for which Altimmune may obtain regulatory approval. Altimmune is only in the preliminary stages of most of these activities. Altimmune may never succeed in these activities and, even if it does, it may never generate revenues that are significant enough to achieve profitability. If some or all of Altimmune's product candidates do not prove to be safe, pure and efficacious, then Altimmune may have to abandon those product candidates altogether and it will be unable to generate revenues from sales of such products.

Altimmune expects to continue to incur significant expenses and increasing operating losses for the foreseeable future. Altimmune anticipates that its expenses will increase significantly if and as it:

- continues its clinical trials for its product candidates;
- initiates additional preclinical studies, clinical trials or other studies or trials for its other product candidates;
- manufactures material for clinical trials and, if any product candidate is approved for marketing, for commercial sale;
- seeks regulatory approvals for its product candidates that successfully complete clinical trials;
- establishes a sales, marketing and distribution infrastructure to commercialize any products for which it may obtain marketing approval;
- seeks to discover and develop additional product candidates;

- acquires or in-licenses other product candidates and technologies;
- makes royalty milestone or other payments under any in-license agreements;
- forms strategic partnerships and/or makes additional acquisitions;
- maintains, protects and expands its intellectual property portfolio;
- attracts and retains skilled personnel; and
- creates additional infrastructure to support its operations as a public company and its product development and planned future commercialization efforts.

Because of the numerous risks and uncertainties associated with pharmaceutical product development, Altimmune is unable to accurately predict the timing or amount of increased expenses or when, or if, it will be able to achieve profitability. If Altimmune is required by the United States Food and Drug Administration ("FDA") or other regulatory authorities to perform studies in addition to those currently expected, or if there are any delays in completing Altimmune's clinical trials or the development of any of its product candidates, its expenses could increase.

Even if Altimmune does achieve profitability, it may not be able to sustain or increase profitability on a quarterly or annual basis. Altimmune's failure to become and remain profitable would depress the value of its company and could impair its ability to raise capital, expand its business, maintain its research and development efforts, diversify its product offerings or even continue its operations. A decline in the value of Altimmune could also cause you to lose part or all of your investment.

Because Altimmune's product candidates are in an early stage of development, there is a high risk of failure, and Altimmune may never succeed in developing marketable products or generating product revenue.

Altimmune's preclinical and clinical results are not necessarily predictive of the final results of its ongoing or future clinical trials. Altimmune has completed early, small, proof-of-concept clinical trials with its NasoVAX influenza vaccine, is in Phase 1 clinical development with HepTcell and is in late-stage preclinical development with its NasoShield program. Success in preclinical studies may not be predictive of similar results in humans during clinical trials, and successful results from early or small clinical trials of a vaccine candidate may not be replicated in later and larger clinical trials. Clinical trials are expensive, time consuming and uncertain as to outcome, and Altimmune cannot guarantee that any of these activities will be successful. If the results of Altimmune's ongoing or future clinical trials are inconclusive with respect to the efficacy of its product candidates, if Altimmune does not meet its clinical endpoints with statistical significance or if there are safety concerns or adverse events associated with its product candidates, Altimmune may be prevented or delayed in obtaining marketing approval for its product candidates, or Altimmune may determine to suspend development of or abandon specific product candidates. For example, Altimmune suspended the development of a Densigen platform-based product candidate, Flunisyn, which was being developed as a T cell vaccine for the treatment of influenza, in favor of NasoVAX. Clinical trials with this product candidate showed that it was well tolerated and able to induce robust T cell responses against the viral sequences represented, but a comparison of the entire study population in later-stage clinical trials showed no statistical differences between the vaccinated and placebo groups for several measures of protection.

Altimmune's product candidates, all of which are biological drug candidates, are subject to extensive governmental regulations relating to, among other things, research, clinical trials, manufacturing, import, export and commercialization. Furthermore, the timing of Altimmune's marketing approval for its NasoShield product candidate is subject to its obtaining continued funding and consent from BARDA, which is uncertain. In order to obtain regulatory approval for the commercial sale of any product candidate, Altimmune must demonstrate through extensive preclinical studies and clinical trials that the product candidate is safe and effective for use in each target indication. Even if Altimmune obtains regulatory approval, that approval may be for indications or patient populations that are not as broad as intended or desired or may require labeling that includes significant use or distribution restrictions or safety warnings. Also, Altimmune may gain regulatory approval for its leading product candidates or its other preclinical product candidates in some but not all of the jurisdictions Altimmune seeks to obtain regulatory approval. For example, failure to obtain

regulatory approval of Altimmune's products in any of the U.S., European or Japanese markets would materially adversely affect Altimmune. Failure to obtain regulatory approval of some but not all of the target indications may result in limited commercial opportunity for the approved product. Altimmune may never obtain regulatory approval for these product candidates in any jurisdiction. Altimmune also may be required to perform additional or unanticipated clinical trials to obtain approval or be subject to additional post-marketing testing requirements to maintain regulatory approval. In addition, regulatory authorities may withdraw their approval of the product or impose restrictions on its distribution in the form of a modified risk evaluation and mitigation strategy.

Altimmune is heavily dependent on the success of its leading product candidates, NasoVAX and HepTcell. If Altimmune ultimately is unable to develop, obtain regulatory approval for or commercialize NasoVAX, HepTcell or any other product candidate, its business will be substantially harmed.

Altimmune currently has no products approved for commercial distribution. Altimmune's business strategy is to build a pipeline of product candidates using its proprietary RespirVec and Densigen platforms, including its leading product candidates, NasoVAX and HepTcell, and to progress those product candidates through clinical development for the treatment of different types of diseases. Altimmune may not be able to develop products that are safe and effective for all or any of the indications that it targets. Even if Altimmune is successful in building a product pipeline, the potential product candidates that Altimmune identifies may not be suitable for clinical development for a number of reasons, including causing harmful side effects or demonstrating other characteristics that indicate a low likelihood of receiving marketing approval or achieving market acceptance. If Altimmune's methods of identifying potential product candidates fail to produce a pipeline of potentially viable product candidates, then its success as a business will be dependent on the success of fewer potential product candidates, which introduces risks to its business model and potential limitations to any success it may achieve.

Because Altimmune has limited financial and managerial resources, it must focus on a limited number of research programs and product candidates and on specific indications. As a result, it may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential. Altimmune's resource allocation decisions may cause it to fail to capitalize on viable commercial products or profitable market opportunities. Altimmune's spending on current and future discovery and preclinical development programs and product candidates for specific indications may not yield any commercially viable products. Furthermore, until such time as Altimmune is able to build a broader product candidate pipeline, if ever, any adverse developments with respect to its leading product candidates, NasoVAX and HepTcell, would have a more significant adverse effect on its overall business than if it maintained a broader portfolio of product candidates.

Altimmune's ability to continue as a going concern will require it to obtain additional financing to fund its current operations, which may be unavailable on acceptable terms, or at all.

Altimmune's recurring operating losses and its current operating plans raise substantial doubt about its ability to continue as a going concern. Altimmune expects to incur additional losses in the future in connection with its research and development activities. As a result, its independent registered public accounting firm included an explanatory paragraph in its report on its consolidated financial statements as of and for the years ended December 31, 2015 and 2016 with respect to this uncertainty. Altimmune's ability to continue as a going concern will require it to obtain additional financing to fund its current operating plans. There can be no assurance that such capital will be available in sufficient amounts or on terms acceptable to Altimmune. Altimmune believes that the net proceeds from the mergers and its existing cash will be sufficient to fund its projected operating requirements through at least the first quarter of 2018. Altimmune has based these estimates, however, on assumptions that may prove to be wrong, and Altimmune could spend its available financial resources much faster than it currently expects and need to raise additional funds sooner than it anticipates. If Altimmune is unable to raise capital when needed or on acceptable terms, it would be forced to delay, reduce or eliminate its research and drug development programs or commercialization efforts.

Altimmune will require substantial additional financing to achieve its goals, and a failure to obtain this necessary capital when needed would force it to delay, limit, reduce or terminate its product development or commercialization efforts.

Altimmune does not expect to generate revenue from product sales, licensing fees, royalties, milestones, contract research or other sources in an amount sufficient to fully fund its operations for the foreseeable future. Therefore, Altimmune will use its existing cash resources, together with funding received from BARDA, and expects to require additional funds to maintain its operations, continue its research and development programs, commence future preclinical studies and clinical trials, seek regulatory approvals and manufacture and market its products. In addition, to induce PharmAthene, Merger Sub Corp and Merger Sub LLC to enter into the Merger Agreement and to cause the mergers to be consummated, Altimmune entered into the Altimmune Financing Agreement with certain Altimmune stockholders who irrevocably committed to participate in: (i) the Altimmune Private Placement, such that not less than $3.5 million of gross proceeds for Altimmune are received by Altimmune prior to the Effective Time and (ii) the Post-Closing Private Placement, such that not less than $5.0 million of gross proceeds are received by the combined company from such Altimmune stockholders within 135 days of the closing date of the mergers, the proceeds of which may be available to Altimmune for such purposes. However, if the combined company completes a public offering of common stock during such 135-day period, then the purchase price of the shares acquired in the Post-Closing Private Placement will be at the same price as the shares sold in such public offering. As of December 31, 2016, Altimmune's cash balance was $2.9 million. Based on its current operating plan, Altimmune believes that the net proceeds it received from the Altimmune Financing Agreement and its existing cash will be sufficient to fund its projected operating expenses and capital expenditure requirements through at least the first quarter of 2018. However, Altimmune does not expect that these funds will be sufficient to enable it to complete the clinical trials needed to seek marketing approval or commercialize any of its product candidates. Furthermore, Altimmune's operating plan may change as a result of many factors currently unknown to it, and it may need additional funds sooner than planned.

Altimmune believes that it will continue to expend substantial resources for the foreseeable future developing its product candidates. These expenditures will include costs associated with research and development, maintaining its intellectual property estate, potentially acquiring new technologies, obtaining regulatory approvals and manufacturing products, forming partnerships and strategic alliances, as well as marketing and selling products approved for sale, if any. In addition, other unanticipated costs may arise. Because the outcome of its planned and anticipated clinical trials is highly uncertain, Altimmune cannot reasonably estimate the actual amounts necessary to successfully complete the development and commercialization of its product candidates.

Altimmune's future capital requirements depend on many factors, including:

- the progress, results and costs of its clinical trials for its leading product candidates;
- the scope, progress, results and costs of preclinical development, laboratory testing and clinical trials for its other product candidates;
- the amount of funding that it receives from BARDA, other government agencies and other non-dilutive funding sources;
- the number and development requirements of other product candidates that it pursues;
- the timing of, and the costs involved in, obtaining regulatory approvals for its product candidates if clinical trials are successful and the outcome of regulatory review of its product candidates;
- its ability to contract with third-party manufacturing facilities and establish processes that meet regulatory requirements for commercialization;
- the cost and timing of future commercialization activities for its products, if any of its product candidates are approved for marketing, including product manufacturing, marketing, sales and distribution costs;

- the revenue, if any, received from commercial sales of its product candidates for which it receives marketing approval;
- its ability to establish and maintain strategic partnerships, licensing or other arrangements and the financial terms of such agreements;
- the costs involved in preparing, filing and prosecuting patent applications, and maintaining, defending and enforcing its intellectual property rights, including litigation costs and the outcome of such litigation;
- the timing, receipt and amount of sales of, or royalties or milestone payments on, its future products, if any; and
- the extent to which it acquires or in-licenses other products or technologies.

Altimmune may also seek additional capital due to favorable market conditions or strategic considerations even if it believes it has sufficient funds for its current or future operating plans. Additional funds may not be available when Altimmune needs them on terms that are acceptable to it, or at all. If adequate funds are not available to it when needed, Altimmune may be required to delay, limit, reduce or terminate preclinical studies, clinical trials or other development activities for one or more of its product candidates or delay, limit, reduce or terminate its establishment of sales and marketing capabilities or other activities that may be necessary to commercialize its product candidates.

Raising additional capital may cause dilution to Altimmune's existing stockholders, restrict its operations or require it to relinquish rights to its technologies or product candidates on unfavorable terms to it.

Until such time, if ever, as Altimmune can generate substantial product revenues, it expects to finance its cash needs through a combination of public or private equity offerings, the Altimmune Financing Agreement, debt financings, BARDA funding, and license and development agreements through strategic partnerships with third parties. To the extent that it raises additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms may include liquidation or other preferences that adversely affect your rights as a stockholder. Debt financing, if available, may involve agreements that include covenants limiting or restricting Altimmune's ability to take certain actions, such as incurring additional debt, making capital expenditures or declaring dividends. If Altimmune raises additional funds through strategic partnerships with third parties, it may have to relinquish valuable rights to its technologies or product candidates, future revenue streams, research programs or product candidates, or otherwise grant licenses on terms that are not favorable to it. If Altimmune is unable to raise additional capital when needed, it may be required to delay, limit, reduce or terminate its product development or commercialization efforts for its leading product candidates or its preclinical product candidates, or grant rights to develop and market product candidates that it would otherwise prefer to develop and market itself.

Altimmune may encounter substantial delays in its clinical trials, or its clinical trials may fail to demonstrate the safety and efficacy of its product candidates to the satisfaction of applicable regulatory authorities.

Before obtaining marketing approval from regulatory authorities for the sale of its product candidates, Altimmune must conduct extensive clinical trials to demonstrate the safety and efficacy of the product candidates in humans. Clinical testing is expensive, time consuming and uncertain as to outcome. Altimmune cannot guarantee that clinical trials will be conducted as planned or completed on schedule, if at all. A failure of one or more clinical trials can occur at any stage of testing. Events that may prevent successful or timely completion of clinical development include:

- delays by Altimmune in reaching a consensus with regulatory agencies on trial design;
- delays in reaching agreement on acceptable terms with prospective contract research organizations (“CROs”) and clinical trial sites;
- delays in obtaining required approvals from the Institutional Review Board (“IRB”) or other similar committees or bodies at each clinical trial site;

- imposition of a clinical hold by regulatory agencies for any reason, including safety concerns raised by other clinical trials of similar product candidates that may reflect an unacceptable risk with the patient population, technology platform, product stability or after an inspection of clinical operations or trial sites;
- failure to perform clinical trials in accordance with the FDA's good clinical practices ("GCP") or applicable regulatory guidelines in other countries, including the United Kingdom;
- delays in the testing, validation, manufacturing and delivery of the product candidates to the clinical sites;
- the number of patients required for Altimmune's clinical trials may be larger than it anticipates, enrollment in its clinical trials may be slower than it anticipates or participants may withdraw from its clinical trials, fail to complete dosing or fail to return for post-treatment follow-up at higher rates than it anticipates, any of which could result in significant delays;
- occurrence of serious adverse events in clinical trials that are associated with the product candidates that are viewed to outweigh its potential benefits;
- Altimmune's preclinical tests or clinical trials may produce negative or inconclusive results, and it may decide, or regulators or funders may require it, to conduct additional preclinical testing or clinical trials or to abandon projects that it had expected to be promising;
- Altimmune's third-party contractors (such as CROs, product manufacturers, or investigators) may fail to comply with regulatory requirements or meet their contractual obligations to Altimmune in a timely manner;
- fraudulent activity by a clinical researcher, if discovered, could preclude the submission of clinical data prepared by that researcher, lead to the suspension or substantive scientific review or one or more of Altimmune's marketing applications by regulatory agencies;
- the cost of Altimmune's clinical trials may be greater than it anticipates;
- the regulatory requirements for product approval may not be explicit, may evolve over time and may diverge by jurisdiction; or
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols.

Delays, including delays caused by the above factors, can be costly and could negatively affect Altimmune's ability to complete a clinical trial. For example, Altimmune has had delays in previous clinical trials, including those conducted for NasoVAX, as a result of clinical holds imposed by the FDA or other regulatory authorities and requests for additional or new information on vaccine product testing in connection with an Investigational New Drug Application ("IND") submitted to the FDA.

Altimmune cannot give any assurance that it will be able to resolve any future clinical holds imposed by the FDA or other regulatory authorities outside of the United States, or any delay caused by other factors described above or any other factors, on a timely basis or at all. If Altimmune is not able to successfully initiate and complete subsequent clinical trials, Altimmune will not be able to obtain regulatory approval and will not be able to commercialize its product candidates.

Altimmune may find it difficult to enroll patients in its clinical trials, which could delay or prevent clinical trials of its product candidates.

Identifying and qualifying patients to participate in clinical trials of its product candidates is critical to Altimmune's success. The timing of Altimmune's clinical trials depends on the speed at which it can recruit patients to participate in testing its product candidates. If patients are unwilling to participate in Altimmune's trials because of negative publicity from adverse events in the biotechnology industries, public perception of vaccine safety issues or for other reasons, including competitive clinical trials for similar patient populations, the timeline for recruiting patients, conducting studies and obtaining regulatory approval of potential products

may be delayed. These delays could result in increased costs, delays in advancing Altimmune's product development, delays in testing the effectiveness of its technology or termination of the clinical trials altogether.

Altimmune may not be able to identify, recruit and enroll a sufficient number of patients, or those with required or desired characteristics to achieve diversity in a trial, to complete its clinical trials in a timely manner. Patient enrollment is affected by several factors, including:

- severity of the disease under investigation;
- design of the trial protocol;
- size of the patient population;
- eligibility criteria for the trial in question;
- perceived risks and benefits of the product candidate being tested;
- proximity and availability of clinical trial sites for prospective patients;
- availability of competing vaccines and/or therapies and related clinical trials;
- efforts to facilitate timely enrollment in clinical trials;
- patient referral practices of physicians; and
- ability to monitor patients adequately during and after treatment.

Altimmune may not be able to initiate or continue clinical trials if it cannot enroll a sufficient number of eligible patients to participate in the clinical trials required by regulatory agencies.

Even if Altimmune enrolls a sufficient number of eligible patients to initiate its clinical trials, it may be unable to maintain participation of these patients throughout the course of the clinical trial as required by the clinical trial protocol, in which event Altimmune may be unable to use the research results from those patients. For example, Altimmune may face difficulties in identifying patient populations with active disease to enroll in its HBV product clinical trial for HepTcell. Other clinical trials involving patients with active HBV have sometimes faced difficulties in working with these patient populations, which may include significant numbers of individuals with difficulties with treatment compliance, such as active drug users. While Altimmune is developing strategies to address this issue, there is no guarantee that these strategies will prove successful.

If Altimmune has difficulty enrolling, and maintaining the enrollment of, a sufficient number of patients to conduct its clinical trials as planned, it may need to delay, limit or terminate ongoing or planned clinical trials, any of which would have an adverse effect on its business.

It may be difficult for Altimmune to predict the time and cost of product development. Unforeseen problems may prevent further development or approval of its product candidates.

Altimmune's product candidates, including its vaccines and immunotherapies, involve novel approaches to activate the immune system. Consequently, it may be difficult for Altimmune to predict the time and cost of product development. For example, Altimmune's RespirVec platform involves intranasally administered adenovectored vaccines and its Densigen platform involves synthetic peptide T cell vaccines. Unforeseen problems with its approaches to vaccines and immunotherapy may prevent further development or approval of Altimmune's product candidates. Because of the novelty of Altimmune's approaches, there may be unknown safety risks associated with the vaccines that it develops or the clinical endpoints that it establishes in its trials may not be generally accepted by regulatory agencies, which may therefore require it to perform large field studies to demonstrate efficacy. There can be no assurance that any development problems Altimmune may experience in the future will not cause significant delays or unanticipated costs, or that such development problems can be solved.

In addition, novel vaccine adjuvants, which are included in HepTcell and Oncosyn, Altimmune's product candidates based on its Densigen technology, may pose an increased safety risk to patients. Adjuvants are compounds that are added to vaccine antigens to enhance the activation and improve immune response and

efficacy of vaccines. Development of vaccines with novel adjuvants requires evaluation in larger numbers of patients prior to approval than would be typical for therapeutic drugs. Guidelines for evaluation of vaccines with novel adjuvants have been established by the FDA and other regulatory bodies and expert committees. The safety of any vaccine, because of the presence of an adjuvant, may have side effects considered to pose too great a risk to patients to warrant approval of the vaccine. Traditionally, regulatory authorities have required extensive study of novel adjuvants because vaccines typically get administered to healthy populations, in particular infants, children and the elderly, rather than in people with disease. As a result, although it is anticipated that HepTcell and Oncosyn are intended for the treatment of patients suffering from a disease, regulatory agencies such as the FDA may nevertheless require Altimmune to conduct extensive safety testing prior to approval to demonstrate a low risk of rare and severe adverse events caused by its product candidates that include novel vaccine adjuvants.

If approved, the novel mechanism of action of the vaccines may adversely affect physician and patient perception and acceptance of Altimmune's products. Public perception of vaccine safety issues, including adoption of novel vaccine mechanisms of action, may adversely influence willingness of subjects to participate in clinical trials, or if approved, to prescribe and receive novel vaccines. For example, GlaxoSmithKline (“GSK”) pulled from the market an approved vaccine to prevent Lyme disease (Lymerix) in February 2002 after anecdotal evidence of joint pain resulted in subjects' unwillingness to receive the vaccine. The FDA found no evidence that the vaccine caused a safety risk; however, GSK pulled the vaccine due to low sales resulting from the negative public perception associated with the reports on joint pain. In addition, parental aversion to new vaccines or vaccines in general may adversely influence later stage clinical trials of Altimmune's influenza product candidate or, if approved, its commercial success.

Altimmune relies, and expects to continue to rely, on third parties to conduct preclinical studies and clinical trials for its product candidates, and if they do not properly and successfully perform their obligations to it, Altimmune may not be able to obtain regulatory approvals for its product candidates.

Altimmune relies, and expect to continue to rely, on third parties, such as CROs, clinical data management organizations, medical institutions and clinical investigators to assist in managing, monitoring and otherwise carrying out its clinical trials. Altimmune competes with many other companies for the resources of these third parties. The third parties on whom it relies generally may terminate their engagements at any time, and having to enter into alternative arrangements would delay development and commercialization of its product candidates.

Altimmune's reliance on these third parties for research and development activities will reduce its control over these activities but will not relieve it of its responsibilities. For example, the FDA and foreign regulatory authorities require compliance with applicable law, regulations and standards, including GCP, for designing, conducting, monitoring, recording, analyzing and reporting the results of clinical trials to assure that the data and results are credible and accurate and that the rights, integrity and confidentiality of trial participants are protected. Although Altimmune relies on third parties to conduct its clinical trials, it is responsible for ensuring that each of these clinical trials is conducted in accordance with applicable law, regulations and standards, including its general investigational plan and protocol.

Furthermore, if these third parties do not successfully carry out their duties under their agreements, if the quality or accuracy of the data they obtain is compromised due to their failure to adhere to clinical trial protocols or to regulatory requirements, or if they otherwise fail to comply with clinical trial protocols or meet expected deadlines, then the clinical trials of Altimmune's product candidates may not meet regulatory requirements. If clinical trials do not meet regulatory requirements or if these third parties need to be replaced, then preclinical development activities or clinical trials may be extended, delayed, suspended or terminated. If any of these events occur, Altimmune may not be able to obtain regulatory approval of its product candidates on a timely basis or at all.

Altimmune also expects to rely on other third parties to store and distribute drug supplies for its clinical trials. Any performance failure on the part of its distributors could delay clinical development or marketing approval of Altimmune's product candidates or commercialization of its products, producing additional losses and depriving Altimmune of potential product revenue.

Altimmune faces substantial competition from other pharmaceutical and biotechnology companies, which may result in others discovering, developing or commercializing products before, or more successfully, than Altimmune does.

The development and commercialization of new drug products is highly competitive. Altimmune's future success depends on its ability to demonstrate and maintain a competitive advantage with respect to the design, development and commercialization of its product candidates. Altimmune's objective is to design, develop and commercialize new products with superior efficacy, convenience, tolerability and safety. In many cases, the products that Altimmune commercializes will compete with existing market-leading products.

Many of Altimmune's potential competitors have significantly greater financial, manufacturing, marketing, drug development, technical and human resources than it does. Large pharmaceutical companies, in particular, have extensive experience in clinical testing, obtaining regulatory approvals, recruiting patients and manufacturing pharmaceutical products. Large and established companies such as AstraZeneca, GSK, Johnson & Johnson and Sanofi Pasteur, among others, compete in the influenza vaccine market. These companies have greater experience and expertise in securing government contracts and grants to support their research and development efforts, conducting testing and clinical trials, obtaining regulatory approvals to market products, manufacturing such products on a broad scale and marketing approved products. These companies also have significantly greater research and marketing capabilities than Altimmune does and may also have products that have been approved or are in late stages of development, and have collaborative arrangements in Altimmune's target markets with leading companies and research institutions. Established pharmaceutical companies may also invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make the product that Altimmune develops obsolete.

Altimmune also faces competition from smaller companies such as Protein Sciences, which markets a recombinant influenza vaccine; Inovio Pharmaceuticals, which is developing an HBV therapeutic vaccine; Emergent Biosolutions, which manufactures the existing anthrax vaccine; and PaxVax, which is developing an anthrax vaccine. Any of these smaller companies may develop competing products more rapidly than Altimmune does. A number of companies of varying sizes are also pursuing the development of a “universal” flu vaccine. In addition, Altimmune has substantial competition for government funding, particularly for its anthrax vaccine program. See the section entitled “Altimmune’s Business — Competition” of in this proxy statement/prospectus/consent solicitation. As a result of all of these factors, Altimmune's competitors may succeed in obtaining patent protection and/or FDA approval or discovering, developing and commercializing products before it does. In addition, any new product that Altimmune develops that competes with an approved product must demonstrate compelling advantages in efficacy, convenience, tolerability and safety in order to overcome price competition and to be commercially successful. If Altimmune is not able to compete effectively against potential competitors, its business will not grow and its financial condition and operations will suffer.

Altimmune may not be able to comply with the requirements of foreign jurisdictions in conducting trials within the United Kingdom or any other foreign country.

Altimmune is currently conducting a clinical trial in the United Kingdom for HepTcell, and future clinical trials may be conducted in other foreign jurisdictions. Altimmune's ability to successfully initiate, enroll and complete a clinical trial in the United Kingdom or any other foreign country is subject to numerous risks unique to conducting business in foreign countries, including:

- difficulty in establishing or managing relationships with contract research organizations, or CROs, and physicians;
- different standards for the approval and conduct of clinical trials;
- our inability to locate qualified local consultants, physicians and partners;
- the potential burden of complying with a variety of foreign laws, medical standards and regulatory requirements, including the regulation of the conduct of clinical trials, pharmaceutical and biotechnology products and treatment; and
- the acceptability of data obtained from studies conducted outside the United States to the FDA in support of U.S. marketing authorizations, such as a biologics license application (“BLA”).

If Altimmune fails to successfully meet requirements for the conduct of clinical trials outside of the United States, it may be delayed in obtaining, or be unable to obtain, regulatory approval for its product candidates in the United States or in countries outside of the United States.

If Altimmune fails to attract and keep senior management and key scientific personnel, it may be unable to successfully develop its products, conduct its clinical trials and commercialize its product candidates.

Altimmune is highly dependent on members of its senior management, including William Enright, its Chief Executive Officer, Dr. Sybil Tasker, its Senior Vice President of Clinical Research and Development, and Dr. M. Scot Roberts, its Chief Scientific Officer, as well as Dr. Bertrand Georges, its Chief Technology Officer and a key employee of Altimmune. Although Altimmune has entered into employment agreements with each of these members of senior management, the loss of the services of any of these persons could impede the achievement of its research, development and commercialization objectives. Altimmune maintains keyman insurance policies on Mr. Enright and Dr. Georges for $2.0 million and £500,000, respectively, but not for any other member of its senior management or any other employee.

Recruiting and retaining qualified scientific, clinical, manufacturing, sales and marketing personnel will also be critical to Altimmune's success. The loss of the services of its executive officers or other key employees could impede the achievement of Altimmune's research, development and commercialization objectives and seriously harm its ability to successfully implement its business strategy. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals in Altimmune's industry with the breadth of skills and experience required to successfully develop, gain regulatory approval of and commercialize products. Competition to hire from this limited pool is intense, and Altimmune may be unable to hire, train, retain or motivate these key personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. Altimmune also experiences competition for the hiring of scientific and clinical personnel from universities and research institutions. In addition, it relies on consultants and advisors, including scientific and clinical advisors, to assist it in formulating its research and development and commercialization strategy. Altimmune's consultants and advisors may be employed by employers other than Altimmune and may have commitments under consulting or advisory contracts with other entities that may limit their availability to it. If Altimmune is unable to continue to attract and retain high quality personnel, its ability to pursue its growth strategy will be limited.

Risks Related to the Regulatory Approval Process

If Altimmune is not able to obtain required regulatory approvals, it will not be able to commercialize its product candidates and its ability to generate revenue will be materially impaired.

Altimmune's product candidates and the activities associated with their development and commercialization, including their design, research, testing, manufacture, safety, efficacy, recordkeeping, labeling, packaging, storage, approval, advertising, promotion, sale and distribution, are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and foreign jurisdictions. Failure to obtain marketing approval for its product candidates will prevent Altimmune from commercializing them in those markets.

Altimmune has not received approval from regulatory authorities to market any product candidate in any jurisdiction, and it is possible that neither its current product candidates nor any product candidates that it may seek to develop in the future will ever obtain the appropriate regulatory approvals necessary for Altimmune to commence product sales.

Altimmune expects to rely on third-party CROs and consultants to assist it in filing and supporting the applications necessary to gain marketing approvals. Securing marketing approval requires the submission of extensive preclinical and clinical data and supporting information to regulatory authorities for each therapeutic indication of each of Altimmune's product candidates to establish its product candidates' safety and efficacy for such indications. Securing marketing approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, regulatory authorities.

The pathway to regulatory approvals is time consuming and unpredictable, involves substantial costs and consumes management time and attention. It is not possible to predict the timing or success of obtaining

regulatory approvals with any degree of certainty, and as a result, it is difficult for Altimmune to forecast its future financial results or prospects. Any unexpected development in the regulatory approval process, including delays or denials of regulatory approvals or significant modifications to Altimmune's product candidates required by its regulators, could materially and adversely affect Altimmune's business, results of operations and financial condition, and could substantially harm its stock price.

Altimmune's product candidates may cause undesirable side effects or have other properties that delay or prevent their regulatory approval or limit their commercial potential.

Undesirable side effects caused by Altimmune's product candidates or even competing products in development that utilize a common mechanism of action could cause Altimmune or regulatory authorities to interrupt, delay or halt clinical trials and could result in the denial of regulatory approval by the FDA or other regulatory authorities and potential product liability claims. Serious adverse events deemed to be caused by Altimmune's product candidates could have a material adverse effect on the development of its product candidates and its business as a whole. The most common adverse events in the clinical trials evaluating the safety and tolerability of Altimmune's NasoVAX influenza vaccine have been headache, runny noses and sore throats. The most common adverse events observed in clinical trials for product candidates developed using the Densigen platform include injection site reactions, headache, malaise and fatigue.

Altimmune's understanding of the relationship between its product candidates and these events, as well as its understanding of adverse events reported in future clinical trials of other product candidates, may change as Altimmune gathers more information, and additional unexpected adverse events may be observed. In addition, the side effect profile of pharmaceutical drugs cannot be fully established based on preapproval clinical trials involving a limited number of patients. Routine review and analysis of post-marketing safety surveillance and clinical trials will provide additional information, for example, potential evidence of rare, population-specific or long-term adverse reactions, and may adversely affect the commercialization of the product, and even lead to the suspension or withdrawal of product marketing authorization.

If Altimmune or others identify undesirable side effects caused by its product candidates either before or after receipt of marketing approval, a number of potentially significant negative consequences could result, including:

- its clinical trials may be put on hold;
- it may be unable to obtain regulatory approval for its product candidates;
- regulatory authorities may withdraw approvals of its products;
- regulatory authorities may require additional warnings on the label;
- a medication guide outlining the risks of such side effects for distribution to patients may be required;
- it could be sued and held liable for harm caused to patients; and
- its reputation may suffer.

Any of these events could prevent Altimmune from achieving or maintaining marketing approvals for and market acceptance of its product candidates and could have a material adverse effect on its business and financial results.

If Altimmune fails to obtain regulatory approval in non-U.S. jurisdictions, it will not be able to market its products in those jurisdictions.

Altimmune intends to market certain of its product candidates, if approved, in the United Kingdom and other international markets, in addition to the United States. Such marketing will require separate regulatory approvals in each market and compliance with numerous and varying regulatory requirements. The approval procedures vary among countries and may involve requirements for additional testing, and the time required to obtain approval may differ from that required to obtain FDA approval. In addition, in many countries outside the United States, such as certain countries of the European Union, a vaccine must be approved for reimbursement, including the price that can be charged, before it can be approved for sale in that country. In

these countries, pricing discussions with governmental authorities can take considerable time after the receipt of marketing approval for a product, and additional clinical research may be required to enable comparison of the cost effectiveness of Altimmune's product candidate to other available alternatives. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or by the FDA. However, the failure to obtain approval in one jurisdiction may compromise Altimmune's ability to obtain approval elsewhere. The foreign regulatory approval process may include all of the risks associated with obtaining FDA approval. Altimmune may not obtain foreign regulatory approvals on a timely basis, if at all. v may not be able to file for regulatory approvals and may not receive necessary approvals to commercialize its products in any market.

Even if Altimmune receives regulatory approval for its product candidates, such products will be subject to ongoing regulatory review, which may result in significant additional expense and other restrictions.

Any regulatory approvals that Altimmune receives for its product candidates may be subject to limitations on the approved indicated uses for which the product may be marketed or to conditions of approval. Altimmune may also be required to conduct post-marketing testing, including Phase 4 clinical trials, and surveillance to monitor the safety and efficacy of the product potentially over many years. If the FDA or other regulatory authority approves any of Altimmune's product candidates, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion and recordkeeping for the product will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, registration, as well as continued compliance with current good manufacturing practice (“cGMP”), and compliance with cGMP and GCP for any clinical trials that Altimmune conducts post-approval. Any such restrictions may result in significant additional expense or could limit sales of the approved product.

Later discovery of previously unknown problems with an approved product, including adverse events of unanticipated severity or frequency, or with manufacturing operations or processes, may result in, among other things:

- restrictions on the marketing or manufacturing of the product, withdrawal of the product from the market or voluntary or mandatory product recalls;
- fines or warning letters, or clinical holds on clinical trials involving related product candidates;
- refusal by the FDA or other regulatory authorities to approve pending applications or supplements to approved applications filed by Altimmune or suspension or revocation of product license approvals;
- product seizure or detention or refusal to permit the import or export of products; and
- injunctions or the imposition of civil, criminal and/or administrative penalties, damages, monetary fines, disgorgement, exclusion from participation in governmental reimbursement programs, such as Medicare, Medicaid and other federal health care programs and curtailment or restructuring of Altimmune's operations.

In addition, applicable regulatory policies of governmental authorities, such as the FDA, may change and additional government regulations may be enacted that could affect any regulatory approval that Altimmune may receive for its product candidates. Altimmune cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If Altimmune is slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or not able to maintain regulatory compliance, it may lose any marketing approval that may have been obtained and it may not achieve or sustain profitability, which would adversely affect its business.

If the FDA or comparable foreign regulatory authorities approve generic or biosimilar versions of any of Altimmune's products that receive marketing approval, or if any product approvals it obtains do not provide it with the exclusivity periods it hopes to achieve, the sales of Altimmune's products could be adversely affected.

As part of the ongoing efforts of governmental authorities to lower health care costs by facilitating generic competition to pharmaceutical products, the Biologics Price Competition and Innovation Act of 2009 ("BPCIA") enacted as part of the Health Care Reform Law, created a new abbreviated regulatory approval pathway in the United States for biological products that are found to be biosimilar" to or "interchangeable" with a biological "reference product" previously licensed under a BLA. This abbreviated approval pathway is intended to permit a biosimilar to come to market more quickly and less expensively by relying to some extent on the data generated by the reference product's sponsor and the FDA's previous review and approval of the reference product. Under the BPCIA, a biosimilar sponsor's ability to seek or obtain approval through the abbreviated pathway is limited by periods of exclusivity granted by the FDA to the holder of the reference product's BLA, and no biosimilar application may be accepted by the FDA for review until four years after the date the reference product was first licensed by the FDA, and no biosimilar application, once accepted, may receive final approval until 12 years after the reference product was first licensed by the FDA. See the section of this proxy statement/prospectus/consent solicitation entitled "Altimmune's Business — United States Government Regulation — Certain U.S. Regulatory Incentives and Other Programs — Marketing Exclusivity for Reference Biological Products."

Once approved, biosimilars likely would compete with, and in some circumstances may be deemed under applicable laws to be "interchangeable with," the previously approved reference product. To date, only four biosimilars have been licensed under the BPCIA framework, and the extent to which a biosimilar, once approved, will be substituted for any one of Altimmune's product candidates, if approved, in a way that is similar to traditional generic substitution for non-biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing. Although there is uncertainty regarding the impact of this new program, it seems likely that if any of Altimmune's product candidates are approved by the FDA, there is risk that the approval of a biosimilar competitor to one of its products could have an adverse impact on its business. In particular, a biosimilar could be significantly less costly to bring to market and priced significantly lower than Altimmune's product, if approved by the FDA.

Altimmune may also be subject to competition from biosimilar products in Europe. To date, 27 biosimilar products have been authorized by the European Medicines Agency ("EMA"). As in the United States the regulatory approval pathway for biosimilar products in Europe is abbreviated. A biosimilar sponsor must however still provide all of the preclinical and clinical data required to demonstrate the similarity of their product with the reference product. The level of data required is assessed on a case by case basis but it will be less than that required for an original biological product. The pathway is more complex than the abridged procedure that may be followed to obtain authorization of a generic version of a non-biological product but it would still allow the biosimilar product to be brought to market more quickly and less expensively than Altimmune's original product. That said, in Europe applications for marketing authorizations in relation to biosimilar products are subject to the same data and market exclusivity as apply to generic non-biologic products so no biosimilar product could be approved or placed on the market during the periods such exclusivity applies to Altimmune's product. See the section of this proxy statement/prospectus/consent solicitation entitled "Altimmune's Business — Non-U.S. Government Regulations — Data and Market Exclusivity in the European Union." Marketing authorization of a biosimilar product in Europe does not guarantee that the biosimilar product may be substituted for the reference product. Interchangeability of a biosimilar product with the reference product is not assessed by the EMA but this determination is left to each of the member states. Altimmune cannot know at this stage the extent to which any biosimilar product would be interchangeable with its reference product, and this may vary between member states.

Pediatric exclusivity is another type of regulatory market exclusivity Altimmune's competitors may pursue. In the United States, the FDA has the authority to award additional exclusivity for approved products where the sponsor conducts specified testing on pediatric or adolescent populations upon the written request of the FDA. If granted, pediatric exclusivity adds six months to existing exclusivity periods applicable to biological products under the BPCIA — namely, the four year period during which the FDA will not consider

an applicable for a biosimilar product, and the twelve-year period during which the FDA will not approve a biosimilar application. This six month exclusivity, which runs from the end of these exclusivity protection periods, may be granted based on the voluntary completion of a pediatric trial in accordance with an FDA-issued "written request" for such trial. See "Altimmune's Business — United States Government Regulation — Certain U.S. Regulatory Incentives and Other Programs — Pediatric Exclusivity." In Europe, as well, pediatric studies are incentivized by the reward of additional exclusivity. Pediatric Investigation Plans, or PIPs, are determined by the Pediatric Committee of the EMA. Where an application for a marketing authorization is submitted in respect of a medicinal product designated as an orphan medicinal product and that application contains the results of the PIP studies, market exclusivity for that orphan medicinal product is extended by two years if the product is authorized across Europe. See "Altimmune's Business — Non-U.S. Government Regulations — Orphan Designation in the European Union." Altimmune may pursue pediatric exclusivity for one or more of its product candidates but may not succeed in obtaining it. There is also a risk that a competitor may achieve pediatric exclusivity that would delay any potential approvals of Altimmune's product candidates.

Orphan drug designation presents yet another regulatory incentive that may be available to Altimmune and its competitors. As explained in "Altimmune's Business — United States Government Regulation — Certain U.S. Regulatory Incentives and Other Programs — Orphan Drug Designation," the FDA may grant orphan drug designation to products intended to treat a "rare disease or condition" that affects fewer than 200,000 individuals in the United States, or affects more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making available in the United States a drug for such disease or condition will be recovered from sales in the United States of such drug. Organ drug designation must be requested before submitting an application for marketing approval. Orphan drug designation can provide opportunities for grant funding towards clinical trial costs, tax advantages and FDA user fee exemptions. In addition, if a product that has an orphan drug designation subsequently receives FDA approval for the indication for which it has such designation, the product may be entitled to orphan drug exclusivity, which means the FDA would not approve any other application to marke the same drug for a period of seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan exclusivity or a meaningfully different mode of administration.

In the European Union, orphan drug status offers similar but not identical benefits as those in the United States. See "Altimmune's Business — Non-U.S. Government Regulations — Orphan Designation in the European Union." Altimmune may pursue orphan drug designation for one or more of its product candidates but obtaining such designation cannot be assured. Additionally, should a competitor receive orphan drug designation for a product to treat the same disease and same indication as one of Altimmune's product candidates, there is a risk that the FDA or a comparable European regulatory body could delay approving Altimmune's product candidate.

Developing a drug product, such as NasoShield, to address biological warfare involves special considerations, including compliance with the "Animal Rule," that may increase drug development delays and costs, and result in a longer and more uncertain regulatory approval process.

Under a special FDA procedure available for studying certain biological warfare products, such as NasoShield, Altimmune's anthrax vaccine product candidate, the FDA makes available a research pathway known as the "Animal Rule," which permits the conduct of clinical trials without exposing human subjects to deadly substances, such as anthrax. These regulations, discussed in more detail under the caption "Altimmune's Business — United States Government Regulation", authorize the FDA to rely on evidence from animal studies to provide evidence of a product's effectiveness under circumstances where there is a reasonably well-understood mechanism for the toxicity of the agent. Under these requirements, and with the FDA's prior agreement, biologics used to reduce or prevent the toxicity of chemical, biological, radiological or nuclear substances may be approved for use in humans based on evidence of effectiveness derived from appropriate animal studies and any additional supporting data. Products evaluated for effectiveness under this rule are evaluated for safety under preexisting requirements for establishing the safety of new drug and biological products, including Phase 1 through Phase 2 clinical trials. Under certain circumstances a single animal species may be acceptable if that animal model is sufficiently well-characterized for predicting a response in humans. The animal study endpoint must be clearly related to the desired benefit in humans and

the information obtained from animal studies must allow for selection of an effective dose in humans. The Animal Rule also requires post-marketing studies, such as field studies, to verify and describe the product's clinical benefit and assess its safety should an exigency exist that leads to the product being used in humans; the nature of these studies will be discussed with FDA as part of the BLA process. Products approved under the Animal Rule are subject to additional requirements, such as restrictions imposed on marketing or distribution or requirements to provide information to patients.

Compliance with the Animal Rule, would generally require Altimmune to utilize animal model studies for efficacy and provide certain animal and human safety data in order to obtain FDA approval for its anthrax vaccine product candidate. The Animal Rule drug development pathway typically involves costs and delays in excess of what would be expended in conducting human vaccine clinical trials not requiring compliance with the Animal Rule. Although there is an alternative regulatory pathway available for biological warfare drug candidates, called Emergency Use Authorization, which avoids the Animal Rule's reliance on animal models focused on efficacy, there can be no assurance that this alternative model will apply to Altimmune's anthrax vaccine product candidate.

Developing appropriate animal models in compliance with the Animal Rule is a time-consuming and expensive research effort. Further, Altimmune may not be able to sufficiently demonstrate the animal correlation to the satisfaction of the FDA, as these corollaries are difficult to establish and are often unclear. The FDA may decide that Altimmune's data are insufficient for approval and require additional non-clinical, clinical or other studies, refuse to approve its products, or place restrictions on its ability to commercialize those products. As a general matter, complying with the Animal Rule involves a more uncertain pathway to regulatory approval, as relatively few products have been approved in this manner. This means that it may be particularly difficult for Altimmune to predict the timing or ultimate success of receiving FDA approval for NasoShield. Further, other countries have not, at this time, established criteria for review and approval of these types of products outside their normal review process; i.e., there is no Animal Rule equivalent, and consequently there can be no assurance that Altimmune will be able to make a submission for marketing approval in foreign countries based on such animal data.

Additionally, few facilities in the United States and internationally have the capability to perform animal testing with anthrax or otherwise assist Altimmune in qualifying the requisite animal models. Altimmune competes with other biodefense companies for access to this limited pool of highly specialized resources. Altimmune therefore may not be able to secure contracts to conduct testing of its anthrax vaccine product candidate in a predictable timeframe or at all.

Additionally, under the Project BioShield Act of 2004, or Project BioShield, the Secretary of HHS may, with the concurrence of the Secretary of the Department of Homeland Security, or DHS, and upon the approval of the President, contract to purchase unapproved medical countermeasures for the Strategic National Stockpile, or SNS, in specified circumstances. The U.S. Congress is notified of a recommendation for a stockpile purchase after Presidential approval. Project BioShield specifies that a company supplying the countermeasure to the SNS is paid on delivery of a substantial portion of the countermeasure. To be eligible for purchase under these provisions, the Secretary of HHS must determine that there are sufficient and satisfactory clinical results or research data, including data, if available, from preclinical studies and clinical trials, to support a reasonable conclusion that the countermeasure will qualify for approval or licensing within eight years. The legislation also allows unlicensed products to be procured for the SNS so that they are available at the time an emergency is declared.

Project BioShield also allows the Secretary of HHS to authorize the emergency use of medical products that have not yet been approved by the FDA. To exercise this authority, the Secretary of HHS must conclude that:

- the agent for which the countermeasure is designed can cause serious or life-threatening disease;
- based on the totality of scientific evidence available to the Secretary, including data from adequate and well-controlled clinical trials, if available, it is reasonable to believe that the product may be effective in detecting, diagnosing, treating or preventing the disease;
- the known and potential benefits of the product outweigh its known and potential risks; and

- there is no adequate, approved, and available alternative to the product for diagnosing, preventing, or treating such disease or condition.

Although this provision permits the Secretary of HHS to circumvent the FDA approval process, its use would be limited to rare circumstances. Altimmune's product candidates will be eligible both for consideration for procurement into the SNS and for use in the event of an emergency, although there is no guarantee that its product candidates will meet the criteria set forth by HHS or the FDA for procurement and Emergency use Authorization, respectively. Both Altimmune's NasoShield anthrax vaccine product candidate and its NasoVAX pandemic influenza vaccine product candidate may potentially be eligible for the SNS under Project BioShield.

Risks Related to Market Volatility and the Referendum of the United Kingdom's Membership of the European Union

The United Kingdom held a referendum on June 23, 2016 in which a majority voted for the United Kingdom's withdrawal from the European Union (referred to as "Brexit"). As a result of this vote, negotiations are expected to commence to determine the terms of the United Kingdom's withdrawal from the European Union as well as its relationship with the European Union going forward, including the terms of trade between the United Kingdom and the European Union. The effects of Brexit have been and are expected to continue to be far-reaching. Brexit and the perceptions as to its impact may adversely affect business activity and economic conditions in Europe and globally and could continue to contribute to instability in global financial and foreign exchange markets. Brexit could also have the effect of disrupting the free movement of goods, services and people between the United Kingdom and the European Union; however, the full effects of Brexit are uncertain and will depend on any agreements the United Kingdom may make to retain access to European Union markets.

In addition, we expect that Brexit could lead to legal uncertainty and potentially divergent national laws and regulations as the United Kingdom determines which European Union laws to replicate or replace. If the United Kingdom were to significantly alter its regulations affecting our industry, we could face significant new costs. It may also be time-consuming and expensive for us to alter our internal operations in order to comply with new regulations. Altered regulations could also add time and expense to the process by which our product candidates receive regulatory approval in the United Kingdom and European Union. Similarly, it is unclear at this time what Brexit's impact will have on our intellectual property rights and the process for obtaining, maintaining and defending such rights. It is possible that certain intellectual property rights, such as trademarks, granted by the European Union will cease being enforceable in the United Kingdom absent special arrangements to the contrary, and we are required to refile our trademarks and other intellectual property applications domestically in the United Kingdom.

Lastly, as a result of the Brexit, other European countries may seek to conduct referenda with respect to their continuing membership in the European Union. Given these possibilities and others we may not anticipate, as well as the lack of comparable precedent, the full extent to which our business, results of operations and financial condition could be adversely affected by Brexit is uncertain.

Risks Related to Altimmune's Intellectual Property

It is difficult and costly to protect Altimmune's proprietary rights, and Altimmune may not be able to ensure their protection. If Altimmune's patent position and other intellectual property rights do not adequately protect its product candidates, others could compete against it (including directly), which could materially harm its business, results of operations and financial condition.

Altimmune relies upon a combination of patents, patent applications, trade secret protection and confidentiality agreements to protect the intellectual property related to its product candidates, platform technology and know-how. The patent position of biotechnology companies is generally uncertain, because it involves complex legal and factual considerations. The standards applied by the United States Patent and Trademark Office ("USPTO") and foreign patent offices in granting patents are not always applied uniformly or predictably. For example, there is no uniform worldwide policy regarding patentable subject matter or the scope of claims allowable in biotechnology patents. In addition, some countries do not grant patent claims directed to methods of treating humans, and in these countries patent protection may not be available at all to

protect Altimmune's product candidates. The patent applications that Altimmune owns or in-licenses may fail to result in issued patents with claims that cover its product candidates in the United States or in other countries.

The patent prosecution process is expensive and time consuming, and Altimmune's current or future licensors, licensees or collaborators may not be able to prepare, file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. Moreover, in some circumstances, Altimmune may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology that it licenses from or license to third parties, making it reliant on its licensors, licensees or collaborators. Therefore, these patents and patent applications may not be prosecuted and enforced in a manner consistent with the best interests of Altimmune's business. If Altimmune's current or future licensors, licensees or collaborators fail to establish, maintain or protect such patents and other intellectual property rights, such rights may be lost or impaired. If Altimmune's licensors, licensees or collaborators are not fully cooperative or disagree with it as to the prosecution, maintenance or enforcement of any patent rights, such patent rights could be compromised.

If patent applications Altimmune holds or has in-licensed with respect to its product candidates fail to issue, if their breadth or strength of protection is threatened, or if they fail to provide meaningful exclusivity for its product candidates, it could dissuade companies from collaborating with it. Altimmune and its licensors have filed several patent applications covering aspects of its product candidates. Altimmune cannot offer any assurance about which, if any, patents will issue, the breadth of any such patents or whether any issued patents will be found invalid or unenforceable, or will be successfully challenged by third parties.

Patent applications in the United States and most other countries are confidential for a period of time after filing, and some remain so until issued. Altimmune cannot be certain that its licensors were the first to satisfy the requirements necessary to secure patent rights relating to any particular invention. Furthermore, if third parties have filed such patent applications, an interference proceeding in the United States can be initiated by such third party, or by the USPTO itself, to determine who was the first to invent any of the subject matter covered by the patent claims of Altimmune's patent applications.

Even if patents do successfully issue and even if such patents cover Altimmune's product candidates, third parties may challenge their validity, enforceability or scope, which may result in such patents being narrowed or invalidated. Any successful challenge to Altimmune's patents or patent applications, or to any other patents or patent applications owned by or licensed to it, could deprive it of the rights necessary to prevent competition from third parties, which may impair the commercial success of any product candidate that it may develop. There is no assurance that all potentially relevant prior art relating to Altimmune's patents and patent applications or those of its licensors has been found, and prior art that Altimmune has not identified could be used by a third party to invalidate a patent or prevent a patent from issuing from a pending patent application. Furthermore, even if they are unchallenged, Altimmune's patents and patent applications, or those of its licensors, may not adequately protect its technology, provide exclusivity for its product candidates, prevent others from designing around its patents with similar products, or prevent others from operating in jurisdictions in which it did not pursue patent protection. Any of these outcomes could impair Altimmune's ability to prevent competition from third parties, which may have an adverse impact on its business.

Any loss of, or failure to obtain, patent protection could have a material adverse impact on Altimmune's business. Altimmune may be unable to prevent competitors from entering the market with a product that is similar to or the same as its products.

Altimmune may not be able to protect its intellectual property rights throughout the world.

Filing, prosecuting and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and Altimmune's intellectual property rights in some countries outside the United States may be less extensive than those in the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, Altimmune may not be able to prevent third parties from practicing its inventions in all countries outside the United States, or from selling or importing products made using its inventions in and into the United States or other jurisdictions. Competitors may use Altimmune's technologies in jurisdictions where it has not obtained patent protection to develop their own products and, further, may

export otherwise infringing products to territories where it has patent protection, but enforcement rights are not as strong as those in the United States. These products may compete with Altimmune's product candidates and its patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in some foreign jurisdictions. The legal systems of certain countries do not favor the enforcement of patents and other intellectual property protection, which could make it difficult for Altimmune to stop the infringement of its patents generally. Proceedings to enforce Altimmune's patent rights in foreign jurisdictions could result in substantial costs and divert its efforts and attention from other aspects of its business, could put its patents at risk of being invalidated or interpreted narrowly and its patent applications at risk of not issuing, and could provoke third parties to assert claims against it. Altimmune may not prevail in any lawsuits that it initiates and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, Altimmune's efforts to enforce its intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that it develops or licenses. The earliest any of Altimmune's patents are scheduled to expire is 2018. For more information regarding Altimmune's intellectual property rights, see the section of this proxy statement/prospectus/consent solicitation entitled “Altimmune's Business — Intellectual Property.”

Patent terms may be inadequate to protect Altimmune's competitive position on its products for an adequate amount of time.

Patents have a limited lifespan. In most countries, including the United States, the natural expiration of a patent is 20 years from the date that the application for the patent is filed. In some cases, the term of a U.S. patent is shortened by a terminal disclaimer that reduces its term to that of an earlier-expiring patent. Various extensions of patent term may be available in particular countries; however, in all circumstances the life of a patent, and the protection it affords, has a limited term. If Altimmune encounter delays in obtaining regulatory approvals, the period of time during which it could market a product under patent protection could be reduced. Altimmune expects to seek extensions of patent terms where these are available in any countries where it is prosecuting patents. Such possible extensions include those permitted under the Drug Price Competition and Patent Term Restoration Act of 1984 in the United States, which permits a patent term extension of up to five years to cover an FDA-approved product. The actual length of the extension will depend on the amount of patent term lost while the product was in clinical trials. However, the applicable authorities, including the USPTO and FDA in the United States, and any equivalent regulatory authority in other countries, may not agree with Altimmune's assessment of whether such extensions are available, and may refuse to grant extensions to its patents, or may grant more limited extensions than it requests. If this occurs, Altimmune's competitors may be able to take advantage of its investment in development and clinical trials by referencing its clinical and preclinical data, and then may be able to launch their product earlier than might otherwise be the case.

Altimmune may become involved in lawsuits to protect or enforce its intellectual property, which could be expensive, time consuming and unsuccessful.

Competitors may infringe Altimmune's patents or misappropriate or otherwise violate its intellectual property rights. To counter infringement or unauthorized use, litigation may be necessary to enforce or defend Altimmune's intellectual property rights, to protect its trade secrets and/or to determine the validity and scope of its own intellectual property rights or the proprietary rights of others. Such litigation can be expensive and time consuming, which could divert management resources and harm Altimmune's business and financial results. Many of Altimmune's current and potential competitors have the ability to dedicate substantially greater resources to litigate intellectual property rights than its can. Accordingly, despite its efforts, Altimmune may not be able to prevent third parties from infringing upon or misappropriating its intellectual property.

Patent assertion, including initiating a litigation, increases the likelihood that the accused third party will seek to narrow or invalidate Altimmune's asserted patent. The scope and validity of Altimmune's asserted patent may be challenged in a variety of post-grant proceedings before the USPTO and foreign patent offices. In addition, in an infringement proceeding, a court may decide that Altimmune's asserted patent is invalid or unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that its

patents do not cover the technology in question. An adverse result in any litigation proceeding or other legal proceeding could therefore put one or more of Altimmune's patents at risk of being invalidated, held unenforceable or interpreted narrowly. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of Altimmune's confidential information could be compromised by disclosure during this type of litigation.

Third-party claims of intellectual property infringement or misappropriation may prevent or delay Altimmune's development and commercialization efforts.

Altimmune's commercial success depends in part on its ability to develop, manufacture, market and sell its product candidates, and to use its or its licensors' proprietary technologies without infringing the patents and proprietary rights of third parties. Numerous U.S. and foreign issued patents and pending patent applications owned by third parties exist in the fields in which Altimmune is developing and may develop its product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that Altimmune's product candidates may be subject to claims of infringement of the patent rights of third parties. Altimmune may not have identified all U.S. and foreign patents or published patent applications that affect its business either by blocking its ability to commercialize its product candidates or by covering similar technologies that affect its market.

Third parties may assert that Altimmune is employing their proprietary technology without authorization. There may be third-party patents or patent applications with claims, for example, to materials, formulations, methods of manufacture, methods of analysis and/or methods for treatment related to the use or manufacture of Altimmune's product candidates. In some cases, Altimmune may have failed to identify such relevant third-party patents or patent applications. For example, patent applications filed before November 29, 2000 and certain patent applications filed after that date that will not be filed outside the United States remain confidential until issued as patents. Except for the preceding exceptions, patent applications in the United States and elsewhere are generally published only after a waiting period of approximately 18 months after the earliest filing. Therefore, patent applications covering Altimmune's platform technology or its product candidates could have been filed by others without its knowledge. Additionally, pending patent applications which have been published can, subject to certain limitations, be later amended in a manner that could cover Altimmune's platform technologies or product candidates and/or the use, analysis and/or manufacture of its product candidates.

If any third-party patents are held by a court of competent jurisdiction to cover aspects of Altimmune's materials, formulations, methods of manufacture, methods of analysis and/or methods for treatment, the holders of any such patents may be awarded monetary damages, obtain injunctive or other equitable relief, or both. An award of monetary damages may be substantial and may include treble damages and attorneys' fees for willful infringement. An award of injunctive relief could block Altimmune's ability to develop and commercialize the applicable product candidate until such patent expired or unless it obtains a license. Such licenses may not be available on acceptable terms, if at all. Even if Altimmune were able to obtain a license, the rights may be non-exclusive, which could result in its competitors gaining access to the same intellectual property. Ultimately, Altimmune could be forced to redesign an infringing product, prevented from commercializing a product, or forced to cease some aspect of its business operations, if, as a result of actual or threatened patent infringement claims, Altimmune is unable to enter into licenses on acceptable terms.

Defending against claims of patent infringement or misappropriation of trade secrets could be costly and time consuming, regardless of the outcome. Thus, even if Altimmune were to ultimately prevail, or to settle at an early stage, such litigation could burden it with substantial unanticipated costs. In addition, litigation or threatened litigation could result in significant demands on the time and attention of Altimmune's management team, distracting them from the pursuit of other company business.

Altimmune may face a claim of misappropriation if a third party believes that it inappropriately obtained and used trade secrets of such third party. If Altimmune is found to have misappropriated a third party's trade secrets, it may be prevented from further using such trade secrets, limiting its ability to develop its product candidates, and Altimmune may be required to pay damages.

During the course of any patent or other intellectual property litigation, there could be public announcements of the results of hearings, rulings on motions, and other interim proceedings in the litigation.

If securities analysts or investors regard these announcements as negative, the perceived value of Altimmune's product candidates, platform technology or intellectual property could be diminished. Accordingly, the market price of Altimmune's common stock may decline. In addition, the uncertainties associated with litigation could have an adverse effect on Altimmune's ability to raise the funds necessary to continue its clinical trials, continue its research programs, license necessary technology from third parties or enter into development partnerships that would help Altimmune bring its product candidates to market.

Altimmune may be subject to claims that its employees, independent contractors or consultants have wrongfully used or disclosed alleged trade secrets of their former employers, or its employees may challenge the inventorship of its patents.

As is common in the biotechnology and pharmaceutical industry, Altimmune employs individuals who were previously employed at other biotechnology or pharmaceutical companies, including its competitors or potential competitors. Some of these individuals, including members of Altimmune's senior management, executed proprietary rights, non-disclosure and non-competition agreements, or similar agreements, in connection with such previous employment. Although Altimmune uses reasonable efforts to ensure that its employees, independent contractors and consultants do not use the proprietary information or know-how of others in their work for Altimmune, Altimmune may be subject to claims that it or these individuals have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such third party.

Altimmune may have inventorship disputes arise from conflicting obligations of employees, consultants or others who are involved in developing its product candidates. In addition, Altimmune may be subject to claims that former employees, collaborators or other third parties have an interest in its patents or other intellectual property as an inventor or co-inventor. Litigation may be necessary to defend against these claims. If Altimmune fails in defending any such claims, in addition to paying monetary damages, it may lose valuable intellectual property rights or personnel. Such intellectual property rights could be awarded to a third party, and Altimmune could be required to obtain a license from such third party to commercialize its technology or products. Such a license may not be available on commercially reasonable terms or at all. Even if Altimmune is successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

Altimmune has in-licensed a portion of its intellectual property, and, if it fails to comply with its obligations under these arrangements, it could lose such intellectual property rights or owe damages to the licensor of such intellectual property.

Altimmune is a party to a number of license agreements that are important to its business, and it may enter into additional license agreements in the future. Certain of Altimmune's in-licensed intellectual property covers, or may cover, RespirVec and certain of its product candidates. See the section of this proxy statement/prospectus/consent solicitation entitled “Altimmune's Business — Intellectual Property — Patent Rights and In-License Agreements” for a description of Altimmune's license agreements.

Altimmune's existing license agreements impose, and Altimmune expects that future license agreements will impose, various diligence, milestone payment, royalty and other obligations on it. If there is any conflict, dispute, disagreement or issue of non-performance between Altimmune and its licensing partners regarding Altimmune's rights or obligations under the license agreements, including any such conflict, dispute or disagreement arising from Altimmune's failure to satisfy payment obligations under any such agreement, Altimmune may owe damages, its licensor may have a right to terminate the affected license, and its ability to utilize the affected intellectual property in its product discovery and development efforts and its ability to enter into collaboration or marketing agreements for an affected product candidate may be adversely affected.

Altimmune may need to license certain intellectual property from third parties, and such licenses may not be available on commercially reasonable terms or at all.

A third party may hold intellectual property, including patent rights, that is important or necessary to the development or commercialization of Altimmune's product candidates. If the patented or proprietary technology of third parties is necessary for Altimmune to commercialize its product candidates, Altimmune

would be required to obtain a license from these third parties. Such a license may not be available on commercially reasonable terms or at all, which could materially harm Altimmune's business.

Confidentiality agreements with employees and third parties may not prevent unauthorized disclosure of proprietary information.

In addition to the protection afforded by patents, Altimmune relies on confidentiality agreements to protect trade secrets and proprietary know-how that may not be patentable or that Altimmune may elect not to patent, processes for which patents are difficult to enforce and any other elements of Altimmune's technology and development processes that involve proprietary know-how, information or technology that is not covered by patents. In particular, Altimmune seeks to protect its proprietary technology and processes, in part, by entering into confidentiality agreements with its employees, consultants, outside scientific advisors, contractors and collaborators. These agreements require that all confidential information developed by the individual or made known to the individual by Altimmune during the course of the individual's relationship with Altimmune be kept confidential and not disclosed to third parties. Altimmune also enters into agreements with its employees that provide that any inventions conceived by the individual in the course of rendering services to Altimmune shall be Altimmune's exclusive property. However, Altimmune may not obtain these agreements in all circumstances, and individuals with whom it has these agreements may not comply with their terms. Although Altimmune uses reasonable efforts to protect its know-how, its employees, consultants, contractors or outside scientific advisors might intentionally or inadvertently disclose its know-how or other proprietary information to competitors. In addition, competitors may otherwise gain access to Altimmune's know-how or independently develop substantially equivalent information and techniques.

Enforcing a claim that a third party illegally obtained and is using any of Altimmune's know-how is expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the United States sometimes are less willing than U.S. courts to protect know-how. Misappropriation or unauthorized disclosure of Altimmune's know-how could impair its competitive position and may have a material adverse effect on its business.

If Altimmune trademarks and trade names are not adequately protected, then it may not be able to build name recognition in its markets of interest and its business may be adversely affected.

Altimmune's registered or unregistered trademarks or trade names may be challenged, infringed, circumvented, declared generic or determined to be infringing on other marks. Altimmune may not be able to protect its rights to these trademarks and trade names, which it needs to build name recognition among potential partners or customers in its markets of interest. At times, competitors may adopt trade names or trademarks similar to those of Altimmune, thereby impeding Altimmune's ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of Altimmune's registered or unregistered trademarks or trade names. For example, Altimmune has experienced threatened or actual opposition for two trademarks that it was pursuing. Altimmune decided to discontinue its use of one of those trademarks, and the other matter was resolved on favorable terms. Although these matters have been resolved on terms that do not materially harm company, Altimmune may become subject to other trademark challenges in the future. If Altimmune is unable to establish long-term name recognition based on its trademarks and trade names, then it may not be able to compete effectively and its business may be adversely affected.

Risks Related to Commercialization of Altimmune's Product Candidates

Altimmune's future commercial success depends upon attaining significant market acceptance of its product candidates, if approved, among physicians, patients, third-party payers and others in the medical community.

Even if Altimmune obtains marketing approval for its product candidates, or any other product candidates that it may develop or acquire in the future, the product may not gain market acceptance among physicians, third-party payers, patients and others in the medical community. Market acceptance of any approved products depends on a number of other factors, including:

- the efficacy and safety of the product, as demonstrated in clinical trials;
- the clinical indications for which the product is approved and the label approved by regulatory authorities for use with the product, including any warnings that may be required on the label;
- acceptance by physicians and patients of the product as a safe and effective treatment and the willingness of the target patient population to try new vaccines and/or therapies and of physicians to prescribe new vaccines and/or therapies;
- the cost, safety and efficacy of treatment in relation to alternative treatments;
- the availability of adequate course and reimbursement by third-party payers and government authorities;
- relative convenience and ease of administration;
- the prevalence and severity of adverse side effects;
- the effectiveness of Altimmune's sales and marketing efforts; and
- the restrictions on the use of Altimmune's products together with other medications, if any.

Market acceptance is critical to Altimmune's ability to generate significant revenue. Any product candidate, if approved and commercialized, may be accepted in only limited capacities or not at all. If any approved products are not accepted by the market to the extent that Altimmune expects, Altimmune may not be able to generate significant revenue and its business would suffer.

Altimmune relies on, and expect to continue to rely on, third parties to manufacture its product candidates and related materials for its clinical trials and preclinical studies, and these third parties may not perform satisfactorily.

Altimmune does not have any manufacturing facilities or personnel and it relies on, and expect to continue to rely on, third-party manufacturers and suppliers to manufacture and supply vaccines for its preclinical studies and clinical trials, and on related materials, such as anthrax, influenza and HBV products. Altimmune relies on a small number of third-party manufacturers and suppliers to manufacture and supply bulk drug substance and fill finished vaccines for its initial clinical trials. This reliance on a small number of third parties increases the risk that Altimmune will not have sufficient quantities of its product candidates or other products needed for its preclinical studies and clinical trials, or such quantities at an acceptable cost or quality, which could delay, prevent or impair its development or commercialization efforts.

Any of these third parties that Altimmune relies upon may terminate their engagement with it at any time. If Altimmune needs to enter into alternative arrangements, it could delay its product development activities. In addition, Altimmune's reliance on these third parties for manufacturing activities will reduce its control over these activities but will not relieve Altimmune of its responsibility to ensure compliance with all required regulations regarding manufacturing.

Reliance on third-party manufacturers entails risks to which Altimmune would not be subject if it manufactured the product candidates itself, including:

- the inability to negotiate manufacturing agreements with third parties under commercially reasonable terms;
- reduced control as a result of using third-party manufacturers for all aspects of manufacturing activities, including regulatory compliance and quality assurance;
- delays as a result of manufacturing problems or re-prioritization of projects at a third-party manufacturer;
- termination or non-renewal of manufacturing agreements with third parties in a manner or at a time that is costly or damaging to Altimmune;

- the possible misappropriation of Altimmune's proprietary information, including its trade secrets and know-how or infringement of third-party intellectual property rights by its contract manufacturers; and
- disruptions to the operations of Altimmune's third-party manufacturers or suppliers caused by conditions unrelated to its business or operations, including the bankruptcy of the manufacturer or supplier.

Any of these events could lead to preclinical and clinical trial delays or failure to obtain regulatory approval, or affect Altimmune's ability to successfully commercialize future products. Some of these events could be the basis for FDA or other regulatory authority action, including clinical holds, fines, injunctions, civil penalties, license revocations, recall, seizure, total or partial suspension of production, or criminal penalties.

In addition, Altimmune's product candidates involve technically complex manufacturing processes, and even slight deviations at any point in the production process may lead to production failures, and may cause the production of its products to be disrupted, potentially for extended periods of time. Third-party manufacturers may not be able to comply with applicable cGMP, regulations or similar regulatory requirements outside the United States. Altimmune's failure, or the failure of its third-party manufacturers, to comply with applicable regulations could result in sanctions being imposed on it, including clinical holds, fines, injunctions, civil penalties, delays, license revocation, seizures or recalls of product candidates or products, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect supplies of its product candidates.

Altimmune's product candidates and any products that it may develop may compete with other product candidates and products for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP regulations and that might be capable of manufacturing for Altimmune. Any performance failure on the part of Altimmune's existing or future manufacturers could delay clinical development or marketing approval. Altimmune has limited arrangements in place for redundant supply or a second source for bulk drug substance. If Altimmune's current contract manufacturers cannot perform as agreed, it may be required to replace such manufacturers, and it may prove very difficult and time consuming to identify potential alternative manufacturers who could manufacture its product candidates. Accordingly, Altimmune may incur added costs and delays in identifying and qualifying any such replacement.

Altimmune's current and anticipated future dependence upon others for the manufacture of its product candidates or products may adversely affect its future profit margins and its ability to commercialize any products that receive marketing approval on a timely and competitive basis.

If Altimmune is unable to manufacture its products in sufficient quantities, or at sufficient yields, or are unable to obtain regulatory approvals for a manufacturing facility for its products, it may experience delays in product development, clinical trials, regulatory approval and commercial distribution.

Completion of Altimmune's clinical trials and commercialization of its product candidates require access to, or development of, facilities to manufacture its product candidates at sufficient yields and at commercial scale, and this manufacturing involves a complicated process with which it has limited experience. Even if clinical trials are successful, Altimmune still may be unable to commercialize a product due to difficulties in obtaining regulatory approval for its engineering processes or problems in scaling that process to commercial production. Altimmune has no experience manufacturing, or managing third parties in manufacturing, any of its product candidates in the volumes that will be necessary to support large-scale clinical trials or commercial sales. Efforts to establish these capabilities may not meet initial expectations as to scheduling, scale-up, reproducibility, yield, purity, cost, potency or quality.

Altimmune expects to rely on third parties for the manufacture of clinical and, if approved for marketing, commercial quantities of its product candidates. These third-party manufacturers must also receive FDA or other applicable governmental authority approval before they can produce clinical material or commercial products. Altimmune's products may be in competition with other products for access to these facilities and may be subject to delays in manufacture if third parties give other products greater priority. Altimmune may not be able to enter into any necessary third-party manufacturing arrangements on acceptable terms, or on a

timely basis. In addition, Altimmune may have to enter into technical transfer agreements and share its know-how with the third-party manufacturers, which can be time consuming and may result in delays.

No known manufacturer has received FDA clearance to manufacture large scale quantities of commercial products with the modified version of adenovirus used in the production of product candidates based on Altimmune's proprietary RespirVec technology. Altimmune or its contract manufacturers therefore will need to develop a scalable manufacturing process for any product candidates that it may develop and commercialize that use its RespirVec technology. Altimmune's contract manufacturing organizations ("CMOs") may encounter technical or scientific issues related to development or manufacturing that Altimmune may be unable to resolve in a timely manner or with available funds. If Altimmune or its manufacturing partners are unable to scale the manufacturing process to produce commercial quantities of its product candidates, or its manufacturing partners do not pass required regulatory pre-approval inspections, its commercialization efforts may be adversely affected.

Altimmune's reliance on contract manufacturers may adversely affect its operations or result in unforeseen delays or other problems beyond its control. Because of contractual restraints and the limited number of third-party manufacturers with the expertise, required regulatory approvals and facilities to manufacture Altimmune's products on a commercial scale, replacement of a manufacturer may be expensive and time consuming and may cause interruptions in the production of its product candidates. A third-party manufacturer may also encounter difficulties in production. These problems may include:

- difficulties with production costs, scale-up and yields;
- unavailability of raw materials and supplies;
- insufficient quality control and assurance;
- shortages of qualified personnel;
- failure to comply with strictly enforced federal, state and foreign regulations that vary in each country where product might be sold; and
- lack of capital funding.

Any delay or interruption in the manufacture of Altimmune's products could have a material adverse effect on its business, financial condition, results of operations and cash flows.

If Altimmune is unable to establish sales, marketing and distribution capabilities, it may not be successful in commercializing its product candidates if and when they are approved.

Altimmune does not have a sales or marketing infrastructure and have no experience in the sale, marketing or distribution of pharmaceutical products. To achieve commercial success for any product for which it obtains marketing approval, and for which it decides to independently commercialize, Altimmune will need to establish a sales and marketing organization.

In the future, Altimmune may build a focused sales and marketing infrastructure to market or co-promote some of its product candidates in the United States and in Europe, if and when they are approved. There are risks involved with Altimmune's establishing its own sales, marketing and distribution capabilities. For example, recruiting and training a sales force is expensive and time consuming and could delay any product launch. If the commercial launch of a product candidate for which Altimmune recruits a sales force and establishes marketing capabilities is delayed or does not occur for any reason, Altimmune would have prematurely or unnecessarily incurred these commercialization expenses. This may be costly, and Altimmune's investment would be lost if it cannot retain or reposition its sales and marketing personnel.

Factors that may inhibit Altimmune's efforts to commercialize its products on its own include:

- its inability to recruit, train and retain adequate numbers of effective sales and marketing personnel;
- the inability of sales personnel to obtain access to physicians;
- the lack of adequate numbers of physicians to prescribe any future products;

- the lack of complementary products to be offered by sales personnel, which may put Altimmune at a competitive disadvantage relative to companies with more extensive product lines; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

If Altimmune does not establish its own sales, marketing and distribution capabilities and instead enters into arrangements with third parties to perform these services, its product revenues and its profitability, if any, could be lower than if Altimmune were to market, sell and distribute any products that it develops itself. In addition, Altimmune may not be successful in entering into arrangements with third parties to sell, market and distribute its product candidates or may be unable to do so on terms that are favorable to it. Altimmune likely will have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market its products effectively. If it does not establish sales, marketing and distribution capabilities successfully, either on its own or in collaboration with third parties, Altimmune will not be successful in commercializing its product candidates.

Altimmune may encounter difficulties in managing its growth and expanding its operations successfully.

As it seeks to advance its product candidates through clinical trials and commercialization, Altimmune will need to expand its development, regulatory, manufacturing, marketing and sales capabilities or contract with third parties to provide these capabilities for it. As Altimmune's operations expand, it expects that it will need to manage additional relationships with various strategic partners, suppliers and other third parties. Future growth will impose significant added responsibilities on members of management. Altimmune's future financial performance and its ability to commercialize its product candidates and to compete effectively will depend, in part, on its ability to manage any future growth effectively. To that end, Altimmune must be able to manage its development efforts and clinical trials effectively and hire, train and integrate additional management, administrative and, if necessary, sales and marketing personnel. Altimmune may not be able to accomplish these tasks, and its failure to accomplish any of them could prevent it from successfully growing its business.

Altimmune may not be successful in establishing and maintaining strategic partnerships, which could adversely affect its ability to develop and commercialize products.

A key part of Altimmune's strategy is to seek strategic partnerships in the future, including potentially with major biotechnology or pharmaceutical companies for late-stage development and commercialization of its product candidates. Altimmune faces significant competition in seeking appropriate partners for its product candidates, and the negotiation process is time consuming and complex. In order for Altimmune to successfully partner its product candidates, potential partners must view these product candidates as economically valuable in markets they determine to be attractive in light of the terms that it is seeking and other products available for licensing from other companies. Even if Altimmune is successful in its efforts to establish strategic partnerships, the terms that it agrees upon may not be favorable to it, and it may not be able to maintain such strategic partnerships if, for example, development or approval of a product is delayed or sales of an approved product are disappointing. Any delay in entering into strategic partnership agreements related to its product candidates could delay the development and commercialization of Altimmune's product candidates and reduce their competitiveness even if they reach the market.

In addition, any future partnerships Altimmune may enter into pose a number of risks, including that its partners may breach their agreements with Altimmune, and it may not be able to adequately protect its rights under these agreements. Furthermore, prospective partners will likely negotiate for certain rights to control decisions regarding the development and commercialization of its product candidates, if approved, and may not conduct those activities in the same manner as Altimmune would.

If Altimmune fails to establish and maintain strategic partnerships related to its product candidates, it will bear all of the risk and costs related to the development of any such product candidate, and it may need to seek additional financing, hire additional employees and otherwise develop expertise which it does not have and for which it has not budgeted. This could negatively affect the development of any unpartnered product candidate.

Altimmune may acquire other businesses, form joint ventures or make investments in other companies or technologies that could negatively affect its operating results, dilute its stockholders' ownership, increase its debt or cause it to incur significant expense.

As part of its business strategy, Altimmune may pursue acquisitions of assets or licenses of assets, including preclinical, clinical or commercial stage products or product candidates, businesses, strategic alliances, joint ventures and collaborations, to expand its existing technologies and operations. For example, Altimmune acquired ITS in March 2015, and a description of specific risks related to that transaction are discussed below in this section under "— Risks Related to the Acquisition of Altimmune UK."

In the future, Altimmune may not be able to find suitable partners or acquisition candidates, and it may not be able to complete such transactions on favorable terms, if at all. If Altimmune makes any acquisitions, it may not be able to integrate these acquisitions successfully into its existing business, and it could assume unknown or contingent liabilities. Any future acquisitions also could result in the incurrence of debt, contingent liabilities or future write-offs of intangible assets or goodwill, any of which could have a negative impact on Altimmune's cash flows, financial condition and results of operations. Integration of an acquired company also may disrupt ongoing operations and require management resources that Altimmune would otherwise focus on developing its existing business. Altimmune may experience losses related to investments in other companies, which could harm its financial condition and results of operations. Altimmune may not identify or complete these transactions in a timely manner, on a cost-effective basis, or at all, and Altimmune may not realize the anticipated benefits of any acquisition, license, strategic alliance or joint venture.

To finance such a transaction Altimmune may choose to issue shares of its common stock as consideration, which would dilute the ownership of its stockholders. If the price of Altimmune's common stock is low or volatile, Altimmune may not be able to acquire other companies or fund a joint venture project using its stock as consideration. Alternatively, it may be necessary for Altimmune to raise additional funds for these activities through public or private financings or through the issuance of debt. Additional funds may not be available on terms that are favorable to Altimmune, or at all, and any debt financing may involve covenants limiting or restricting its ability to take certain actions.

If product liability lawsuits are brought against Altimmune, it may incur substantial liabilities and may be required to limit commercialization of its product candidates.

Altimmune faces an inherent risk of product liability as a result of the clinical testing of its product candidates and will face an even greater risk if it commercializes any products. For example, Altimmune may be sued if any product it develops allegedly causes injury or is found to be otherwise unsuitable during product testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability and a breach of warranties. Claims could also be asserted under state consumer protection acts. If Altimmune cannot successfully defend itself against product liability claims, it may incur substantial liabilities or be required to limit commercialization of its product candidates.

Altimmune believes its anthrax countermeasures are covered under the general immunity provisions of the U.S. Public Readiness and Emergency Preparedness Act, or Public Readiness Act, but this cannot be assured. Also, there can be no assurance that the Secretary of the Department of Health and Human Services ("HHS") will make other declarations in the future that cover any of its other product candidates or that the U.S. Congress will not act in the future to reduce coverage under the Public Readiness Act or to repeal it altogether. Additionally, Altimmune is considering applying for liability protection under the U.S. Support Anti-terrorism by Fostering Effective Technologies (SAFETY) Act of 2002 (the "SAFETY Act") which may limit the claims and damages potentially faced by companies who provide certain "qualified" anti-terrorism products. However, Altimmune cannot be certain that it will be able to obtain or maintain coverage under the SAFETY Act.

Even a successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand for any product candidates or products that Altimmune may develop;
- injury to Altimmune's reputation and significant negative media attention;

- withdrawal of clinical trial participants;
- significant costs to defend the related litigations;
- a diversion of management's time and Altimmune's resources;
- substantial monetary awards to trial participants or patients;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- loss of revenue;
- the inability to commercialize any product candidates that Altimmune may develop; and
- a decline in Altimmune's stock price.

Failure to obtain and retain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims could prevent or inhibit the commercialization of products Altimmune develops. Altimmune currently carries liability insurance covering residual liability related to previously completed clinical trials in the amount of $5.0 million in the U.S., product liability insurance covering its clinical trials in the UK in the amount of €5.0 million in the aggregate, clinical trial liability insurance covering its clinical trials in South Korea in the amount of $1.0 million, and a global master insurance policy in the amount of $1.0 million. Although Altimmune maintains product liability insurance, any claim that may be brought against it could result in a court judgment or settlement in an amount that is not covered, in whole or in part, by its insurance or that is in excess of the limits of its insurance coverage. Altimmune's insurance policies also have various exclusions, and it may be subject to a product liability claim for which it has no coverage. Altimmune will have to pay any amounts awarded by a court or negotiated in a settlement that exceed its coverage limitations or that are not covered by its insurance, and it may not have, or be able to obtain, sufficient capital to pay such amounts.

A breakdown in Altimmune's information technology systems could result in a significant disruption to its business.

Altimmune's operations and those of its business partners, such as CROs and others that manage sensitive data, are highly dependent on information technology systems, including Internet-based systems, which may be vulnerable to breakdown, wrongful intrusions, data breaches and malicious attack. Information security risks have generally increased in recent years. Altimmune's systems, and those of its third-party providers, are potentially vulnerable to data security breaches or cyberattack, whether by employees or others, which may expose sensitive data to unauthorized persons. A data security breach could lead to the loss of trade secrets or other intellectual property, the value of which may be contingent upon maintaining its confidentiality, or could lead to the public exposure of personal information (including sensitive personal medical information) of clinical trial participants, Altimmune's employees and others, or adversely impact the conduct of scientific research and clinical trials, including the submission of research results to support marketing authorizations. This could require Altimmune to expend significant efforts and resources or incur significant expense to eliminate these problems and address related security concerns. In addition, procedures and safeguards must continually evolve to meet new data security challenges, and enhancing protections, and conducting investigations and remediation, may impose additional costs on Altimmune. If Altimmune were to suffer a breakdown in its systems, storage, distribution or tracing, it could experience significant disruptions affecting its business, reputational harm or claims against it by private parties and/or governmental agencies.

Risks Related to Altimmune's Acquisition of Altimmune UK

If Altimmune is unable to successfully integrate Altimmune UK into its business, its business, financial condition and results of operations may be negatively impacted.

Altimmune acquired ITS on March 10, 2015 and subsequently renamed it Altimmune UK Limited. By acquiring Altimmune UK, Altimmune gained access to the Densigen technology and product candidates based on the Densigen platform, including HepTcell and Oncosyn. Altimmune is in the process of integrating Altimmune UK into its existing business. Successful integration will depend on its ability to effect any required changes in operations or personnel which may entail unforeseen liabilities. The integration of

Altimmune UK may expose Altimmune to certain risks, including difficulty in integrating Altimmune UK in a cost-effective manner, including the establishment of effective management information and financial control systems; unforeseen legal, regulatory, contractual, employment or other issues arising out of the combination; combining corporate cultures; inability to maintain employee morale and retain key employees; potential disruptions to Altimmune's ongoing business caused by its senior management's focus on integrating Altimmune UK; and performance of the combined assets not meeting its expectations or plans. A failure to properly integrate Altimmune UK could have a corresponding material adverse effect on Altimmune's business, results of operations, financial condition or prospects.

Expanding Altimmune's operations internationally adds complexity to its operations and poses additional risks to its business.

Altimmune historically has been engaged in business activities principally in the United States. Altimmune UK, together with its subsidiary, Altimmune France, marks Altimmune's first significant direct entry into a foreign market (other than its joint ventures). Altimmune's business or financial performance may be adversely affected due to the risks of operating internationally, including but not limited to economic and political instability, failure to comply with foreign laws and regulations and adverse changes in the health care policies of the United Kingdom and European Union, adverse changes in law and regulations affecting the operations of Altimmune UK and Altimmune France going forward and difficulties and costs of staffing and managing Altimmune's new operations in the United Kingdom and France. If any of these events were to materialize, they could lead to disruption of Altimmune's business, significant expenditures and/or damages to its reputation, which could have a material adverse effect on its results of operations, financial condition or prospects.

Altimmune's acquisition of Altimmune UK may expose it to unknown or contingent liabilities for which it will not be indemnified.

Altimmune's acquisition of Altimmune UK was effected through a share exchange agreement, pursuant to which it acquired all the outstanding capital shares of ITS. The assets that Altimmune acquired as a result of this acquisition may have unknown or contingent liabilities, including, but not limited to, liabilities for uncertain tax positions, for failure to comply with health care laws and regulations and for unresolved litigation or regulatory reviews. Therefore, Altimmune may incur material liabilities for the past activities of ITS and its facilities. Such liabilities and related legal or other costs and/or resulting damage to a facility's reputation could negatively impact Altimmune's business, financial condition or results of operations.

Foreign currency exchange rate fluctuations could materially impact Altimmune's consolidated financial position and results of operations.

As a result of the expansion of Altimmune's operations to the United Kingdom and France through its acquisition of Altimmune UK, a portion of its expenses and revenues are derived from operations in the United Kingdom and European Union, principally with respect to salaries and related personnel expenses associated with its research and development operations. Altimmune translates financial results denominated in foreign currency, primarily British pounds and Euros, into U.S. dollars for its consolidated financial statements. During periods of a strengthening U.S. dollar, Altimmune reported revenues and net income could be reduced because foreign currencies may translate into fewer U.S. dollars. To date, Altimmune has not engaged in any hedging strategies, and any such strategies related to transaction exposures, such as forward contracts, options and foreign exchange swaps, that Altimmune implements to mitigate this risk may not eliminate its exposure to foreign exchange fluctuations.

In all jurisdictions in which Altimmune operates, it is also subject to laws and regulations that govern foreign investment, foreign trade and currency exchange transactions. These laws and regulations may limit Altimmune's ability to repatriate cash as dividends or otherwise to the United States and may limit its ability to convert foreign currency cash flows into U.S. dollars.

Altimmune is subject to taxation in certain foreign jurisdictions due to the ITS acquisition. Any adverse development in the tax laws of such jurisdictions or any disagreement with its tax positions could have a material adverse effect on its business, financial condition or results of operations. In addition, Altimmune's effective tax rate could change materially as a result of certain changes in its mix of U.S. and foreign earnings and other factors, including changes in tax laws.

Altimmune is subject to taxation in, and to the tax laws and regulations of, certain foreign jurisdictions as a result of the ITS acquisition. Adverse developments in these tax laws or regulations, or any change in position regarding the application, administration or interpretation thereof, in any applicable jurisdiction, could have a material adverse effect on Altimmune's business, financial condition or results of operations. In addition, the tax authorities in any applicable jurisdiction may disagree with the tax treatment or characterization of any of Altimmune's transactions, which, if successfully challenged by such tax authorities, could have a material adverse effect on its business, financial condition or results of operations. Certain changes in the mix of Altimmune's earnings between jurisdictions and assumptions used in the calculation of income taxes, among other factors, could have a material adverse effect on Altimmune's overall effective tax rate. In addition, legislative proposals to change the U.S. taxation of foreign earnings could also increase Altimmune's effective tax rate.

Risks Related to Altimmune's BARDA Contract and Other Government Programs

Without the BARDA anthrax contract award, Altimmune would only be able to move forward with the NasoShield program at its own risk and without BARDA reimbursement, and may therefore suspend or terminate it.

In recent financial periods, a significant portion of Altimmune's revenues have been derived from its BARDA contract. For the years ended December 31, 2015 and 2016, BARDA funding for the development of NasoShield accounted for approximately 86% and 87% of Altimmune's total consolidated revenue and grants and contracts, respectively. There are significant uncertainties and risks associated with Altimmune's BARDA contract for its NasoShield anthrax vaccine program. Although in July 2016 Altimmune received a new BARDA contract that will fund its NasoShield anthrax vaccine program for the next five years, the majority of the funds will be received during the final three years of the contract and are dependent on achieving positive clinical results during the initial two-year period.

Altimmune's BARDA contracts are cost-plus-fixed-fee contracts that only reimburse certain specified activities.

Altimmune's BARDA contracts are cost-plus-fixed-fee contracts that only reimburse certain specified activities related to its anthrax vaccine program that have been previously authorized by BARDA. There is no guarantee that additional activities will not be needed and, if so, that BARDA will reimburse Altimmune for these activities. There are also significant requirements associated with operating as a federal government contractor, which include having appropriate accounting, project tracking and earned-value management systems implemented and operational, and Altimmune may not be able to consistently meet these requirements. Performance under the BARDA contracts requires that Altimmune comply with appropriate regulations and operational mandates, which require it to engage internal and external expertise for compliance. Altimmune's ability to be regularly and fully reimbursed for its activities depends and will depend on its ability to comply and demonstrate compliance with such requirements. In the past, Altimmune has experienced delays in reimbursements under a BARDA contract on account of compliance issues, which it has had to dedicate substantial time and resources to remedy, including through modifications to its statement of work related to the program. In addition, under certain circumstances, BARDA may advise Altimmune to delay certain activities and invest additional time and resources before proceeding. If Altimmune follows such BARDA advice, overall program delays and costs associated with additional resources for which it had not planned may result. The costs associated with following such advice may or may not be reimbursed by BARDA under its contract. Altimmune may decide not to follow the advice provided by BARDA and instead pursue activities that it believes are in the best interest of its anthrax vaccine program and its business as a whole, even if BARDA would not reimburse Altimmune under its contract.

Most of Altimmune's immediately foreseeable future revenues are contingent upon grants, contracts and loans from the U.S. and other governments, non-profit entities and academic institutions, and it may not achieve sufficient revenues from these sources either to maintain operations or eventually attain profitability.

Substantially all of Altimmune's revenues to date have been derived from U.S. and European government grants, contracts and loans (such as its current BARDA contract), and from time to time, it may apply for additional contracts, grants or loans from government agencies, non-profit entities and academic institutions. Such contracts, grants or loans can be highly attractive, because they provide additional capital to fund the ongoing development of Altimmune's technologies and product candidates without diluting its stockholders. However, there is often significant competition for these contracts, grants and loans, and the process of obtaining government and other contracts, grants and loans is lengthy and uncertain. Entities offering contracts, grants or loans may have requirements to apply for or to otherwise be eligible to receive certain contracts, grants or loans that Altimmune's competitors may be able to satisfy that it cannot. In addition, such entities may make arbitrary decisions as to whether to offer contracts or make grants or loans, to whom the contracts, grants or loans will be awarded and the size of the contracts, grants or loans to each awardee. Even if Altimmune is able to satisfy the award requirements, there is no guarantee that it will be a successful awardee. Therefore, Altimmune may not be able to win any contracts, grants or loans in a timely manner, if at all, and there can be no assurance that existing government or other contracts, grants or loans will be renewed or that Altimmune can enter into new contracts or receive new grants or loans.

With respect to the BARDA funding Altimmune receives for its anthrax vaccine product candidate, if the U.S. government makes significant contract awards to its competitors, rather than to Altimmune, Altimmune's business will be harmed and it is unlikely that Altimmune would ultimately be able to supply that particular treatment or product either in the United States or to foreign governments or other third parties. Further, changes in government budgets and agendas, funding strategies, cost overruns in Altimmune's programs, or advances by its competitors, may result in changes in the timing of funding for, a decreased and de-prioritized emphasis on, or termination of, government contracts that support the development and/or procurement of the biodefense product Altimmune is developing. For example, the outbreak of Ebola in 2014 changed the near-term focus and priorities of BARDA to ensure sufficient progress was being made on a solution for that disease. This resulted in a delay of funding to some non-Ebola programs until Congress appropriated additional funds to BARDA specific for this purpose.

U.S. government funding is also subject to Congressional appropriations generally made on an annual basis even for multi-year contracts. More generally, due to the ongoing economic and political uncertainty, the U.S. government may reduce or delay spending in the biodefense field or eliminate funding of certain programs altogether, which could decrease the likelihood of future government contract awards or that the government would procure products from Altimmune. Future funding levels for BARDA for the advanced development and procurement of medical countermeasures are uncertain, and may be subject to budget cuts and/or government shutdowns as the U.S. Congress and the President look to reduce the U.S. budget deficit. Potential reductions in funding could severely limit Altimmune's ability to maintain, renew or enter into new contracts and therefore materially adversely impact its business. A government shutdown could result in a suspension or delayed funding, which may materially adversely affect its ability to continue its anthrax program.

Further, the 21st Century Cures Act, or Cures Act, was signed into law on December 13, 2016 and, among other things, includes a provision requiring timely and accurate recommended utilization guidelines for qualified Medical Countermeasures, or MCMs, including for products in the Strategic National Stockpile. The Cures Act requires HHS to report to the appropriate committees of Congress when funding in the BioShield Special Reserve Fund, or SRF, available to procurement of MCMs falls below $1.5 billion and how the amount of funding will impact identified MCM priorities. The Cures Act ensures coordinated and efficient processes for executing MCM development and procurement programs by clarifying that the Director of BARDA carry out the programs funded by the SRF, as well as the procurement contracts, grants, and cooperative agreements under BARDA.

U.S. government agencies have special contracting requirements that give them the ability to unilaterally control contracts such as Altimmune's BARDA contract.

U.S. government contracts, such as Altimmune's BARDA contract, typically contain unilateral termination provisions for the government and are subject to audit and modification by the government at its sole discretion, which will subject Altimmune to additional risks during the term of such contracts. These risks include the ability of the U.S. government unilaterally to:

- suspend or prevent Altimmune for a set period of time from receiving new U.S. government contracts or extending existing contracts based on violations or suspected violations of laws or regulations;
- terminate Altimmune's existing U.S. government contracts, including for poor performance or if funds become unavailable or are not provided to the applicable governmental agency;
- reduce the scope and value of Altimmune's U.S. government contracts and/or revise the timing for work to be performed;
- audit and object to Altimmune's contract-related costs and fees, including allocated indirect costs;
- control and potentially prohibit the export of Altimmune's products developed under the contract;
- claim rights to products, including intellectual property, developed under the contract;
- change certain terms and conditions in Altimmune's U.S. government contracts; and
- cancel outstanding Request for Proposal solicitations or Broad Agency Announcements.

The U.S. government will be able to terminate any of its contracts with Altimmune, including its BARDA contract, either for its convenience or if it defaults by failing to perform in accordance with the contract schedule and terms. Termination-for-convenience provisions generally enable Altimmune to recover only its costs incurred or committed, settlement expenses, and profit on the work completed prior to termination. Termination-for-default provisions do not permit these recoveries and would make Altimmune liable for excess costs incurred by the U.S. government in procuring undelivered items from another source.

The U.S. government's determination to award any contracts may be challenged by an interested party, such as another bidder, at the U.S. Government Accountability Office ("GAO") or in federal court. If such a challenge is successful, a contract award may be re-evaluated and terminated.

The laws and regulations governing the procurement of goods and services by the U.S. government provide procedures by which other bidders and other interested parties may challenge the award of a government contract. Such challenges or protests could be filed with respect to any U.S. government contract awarded to Altimmune, including its BARDA contract, even if there are not any valid legal grounds on which to base the protest. If any such protests are filed, the government agency may decide, and in certain circumstances will be statutorily required, to suspend Altimmune's performance under the contract while such protests are being considered by the GAO or the applicable federal court, thus potentially delaying delivery of goods and services and payment. In addition, Altimmune could be forced to expend considerable funds to defend any potential award. If a protest is successful, the government may be ordered to terminate Altimmune's contract and re-evaluate bids. The government could even be directed to award a potential contract to one of the other bidders.

Altimmune's business is subject to audit by the U.S. government, and may be subject to audit by foreign governments. A negative audit could adversely affect its business.

Altimmune's business is subject to audit by the U.S. government in part because of the funding it receives for its anthrax vaccine program under its BARDA contract. U.S. government agencies such as the Defense Contract Audit Agency ("DCAA") routinely audit and investigate government contractors. These agencies review a contractor's performance under its contracts, cost structure and compliance with applicable laws, regulations and standards.

The DCAA also reviews the adequacy of, and a contractor's compliance with, its internal control systems and policies, including the contractor's purchasing, property, estimating, compensation and management

information systems. Any costs found to be improperly allocated to a specific contract will not be reimbursed, while such costs already reimbursed must be refunded. If an audit uncovers improper or illegal activities, it may be subject to civil and criminal penalties and administrative sanctions, including termination of contracts, forfeiture of profits, suspension of payments, fines and suspension or prohibition from conducting business with the U.S. government. In addition, could suffer serious reputational harm if allegations of impropriety were made against it.

In the future, Altimmune may also be subject to audits by foreign governments, as Altimmune from time to time receives funding from non-U.S. government sources.

Laws and regulations affecting government contracts make it more costly and difficult for Altimmune to successfully conduct its business.

Altimmune's business plan includes the continued development of its anthrax vaccine candidate, NasoShield, pursuant to its BARDA contract in addition to its applying for additional contracts, grants or loans from government agencies, non-profit entities and academic institutions. Altimmune must comply with numerous laws and regulations relating to the formation, administration and performance of government contracts, which can make it more difficult for Altimmune to retain its rights under these contracts. These laws and regulations affect how Altimmune conducts business with government agencies. Among the most significant government contracting regulations that affect Altimmune's business are:

- the Federal Acquisition Regulation (“FAR”) and agency-specific regulations supplemental to the FAR, which comprehensively regulate the procurement, formation, administration and performance of government contracts;
- the business ethics and public integrity obligations, which govern conflicts of interest and the hiring of former government employees, restrict the granting of gratuities and funding of lobbying activities and incorporate other requirements such as the Anti-Kickback Act, the Procurement Integrity Act, the False Claims Act and Foreign Corrupt Practices Act (“FCPA”);
- export and import control laws and regulations; and
- laws, regulations and executive orders restricting the use and dissemination of information classified for national security purposes and the exportation of certain products and technical data.

Foreign governments typically also have laws and regulations governing contracts with their respective agencies. These foreign laws and regulations affect how Altimmune and its customers conduct business and, in some instances, impose added costs on its business. Any changes in applicable laws and regulations could restrict Altimmune's ability to maintain its existing contracts and obtain new contracts, which could limit its ability to conduct its business and materially adversely affect its revenues and results of operations.

Risks Related to Reimbursement and Government Regulation

Coverage and reimbursement may be limited or unavailable in certain market segments for its product candidates, if they are approved, which could make it difficult for Altimmune to sell its products profitably.

Market acceptance and sales of any approved products will depend significantly on the availability of adequate coverage and reimbursement from third-party payers and may be affected by existing and future health care reform measures. Third-party payers, such as government health care programs, and private health insurers and health plans, decide which drugs they will provide coverage for and establish reimbursement levels. Coverage and reimbursement decisions by a third-party payer may depend upon a number of factors, including the third-party payer's determination that use of a product is:

- a covered benefit under its health plan;
- safe, effective and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

Third-party payers, whether foreign or domestic, or governmental or commercial, are developing increasingly sophisticated methods of controlling health care costs. Coverage and reimbursement can vary significantly from payer to payer. As a result, obtaining coverage and reimbursement approval for any approved product from each government and other third-party payer may require Altimmune to provide supporting scientific, clinical and cost-effectiveness data for the use of such products to each payer separately, with no assurance that it will be able to provide data sufficient to gain acceptance with respect to coverage and reimbursement. Altimmune cannot be sure that coverage or adequate reimbursement will be available for any of its product candidates, and it cannot be sure that coverage determinations or reimbursement amounts will not reduce the demand for, or the price of, its products. If reimbursement is not available or is available only to limited levels, Altimmune may not be able to commercialize certain of its products, even if they are approved by the FDA or other regulatory authorities. In addition, in the United States third-party payers are increasingly attempting to contain health care costs by limiting both coverage and the level of reimbursement of new drugs. As a result, significant uncertainty exists as to whether and how much third-party payers will reimburse patients for their use of newly approved drugs, which in turn will put pressure on the pricing of drugs.

Price controls may be imposed, which may adversely affect Altimmune's future profitability.

In international markets, reimbursement and health care payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies. In some countries, particularly member states of the European Union, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after receipt of marketing approval for a product. In addition, there can be considerable pressure by governments and other stakeholders on coverage, prices and reimbursement levels, including as part of cost containment measures. Political, economic and regulatory developments may further complicate pricing negotiations, and pricing negotiations may continue after coverage and reimbursement has been obtained. Reference pricing used by various European Union member states and parallel distribution, or arbitrage between low-priced and high-priced member states, can further reduce revenues. In some countries, additional clinical research may be required to enable comparison of the cost-effectiveness of Altimmune's product candidates, if they are approved, to other available vaccines in order to obtain or maintain coverage, reimbursement or pricing approval. Publication of discounts by third-party payers or authorities may lead to further pressure on the prices or reimbursement levels within the country of publication and other countries. In the United States, concerns about drug pricing have been expressed by members of Congress and President Trump. There can be no assurance that Altimmune's product candidates, if approved, will be considered cost-effective by third-party payers, that an adequate level of reimbursement will be available or that the third-party payers' reimbursement policies will not adversely affect Altimmune's ability to sell its products profitably. If reimbursement of Altimmune's products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, Altimmune's business could be adversely affected.

Altimmune is subject to multiple and substantial federal and state health care and other laws, and the complexity of its regulatory compliance obligations is likely to increase in the event its product candidates are commercialized.

Altimmune's business operations and activities may be directly or indirectly subject to various federal and state fraud and abuse laws, including, without limitation, the federal Anti-Kickback Statute and the federal False Claims Act. See the section entitled “Altimmune's Business — United States Government Regulation” in this proxy statement/prospectus/consent solicitation. If Altimmune obtains FDA approval for any of its product candidates and begin commercializing those products in the United States, its potential exposure under such laws will increase significantly, and its costs associated with compliance with such laws are also likely to increase. These laws may impact, among other things, its current activities with principal investigators and research subjects, as well as proposed and future sales, marketing and education programs.

In addition, Altimmune may be subject to patient privacy regulation by the federal government and state governments in which it conducts its business. In addition to the measures discussed in the section of this proxy statement/prospectus/consent solicitation entitled “Altimmune's Business — United States Government Regulation” such as the Anti-Kickback Statute, False Claims Act and Physician Payments Sunshine Act, the laws that may affect Altimmune's ability to operate include, but are not limited to:

- The Health Insurance Portability and Accountability Act of 1996 (“HIPAA”) as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 (“HITECH”) and their respective implementing regulations, and other health privacy measures, which impose requirements on parties with respect to the use and disclosure of individually-identifiable information, such as medical records information, including requirements relating to the privacy, security and transmission of individually identifiable health information;
- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers;
- federal government price reporting laws that require the calculation and reporting of complex pricing metrics to government programs, where such reported prices may be used in the calculation of reimbursement and/or discounts, on any of Altimmune's product candidates that may be approved for marketing (participation in these programs and compliance with the applicable requirements may also subject Altimmune to potentially significant discounts on its products and increased infrastructure costs, and potentially limit its ability to offer certain marketplace discounts);
- the FCPA, which regulates certain financial relationships with foreign government officials (which could include, for example, certain medical professionals), and anti-bribery laws and related laws, and laws pertaining to the accuracy of Altimmune's internal books and records, which have been the focus of increasing enforcement activity in recent years; and
- state law equivalents of each of the above federal laws, such as anti-kickback, false claims, consumer protection and unfair competition laws, which may apply to Altimmune's business practices, including but not limited to, research, distribution, sales and marketing arrangements as well as submitting claims involving health care items or services reimbursed by any third-party payer, including commercial insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government that otherwise restricts payments that may be made to health care providers; state laws that require drug manufacturers to file reports with states regarding marketing information, such as the tracking and reporting of gifts, compensations and other remuneration and items of value provided to health care professionals and entities (compliance with such requirements may require investment in infrastructure to ensure that tracking is performed properly, and some of these laws result in the public disclosure of various types of payments and relationships, which could potentially have a negative effect on Altimmune's business and/or increase enforcement scrutiny of its activities); and state laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways, with differing effects.

In addition, the regulatory approval and commercialization of any of Altimmune's product candidates outside the United States will also subject Altimmune to foreign equivalents of the health care laws mentioned above, among other foreign laws, as well as compliance with the codes of practice of certain associations within such countries (for example, the Association of the British Pharmaceutical Industry (ABPI) in the United Kingdom).

Efforts to ensure that Altimmune's business arrangements will comply with applicable health care laws and codes of practice may involve substantial costs. Altimmune has adopted policies and practices that are designed to help ensure that Altimmune, its employees, officers, agents, intermediaries and other third parties comply with applicable laws, but it is not always possible to assure compliance with applicable requirements, and the precautions Altimmune takes to achieve compliance may not be effective in controlling unknown or unmanaged risks or losses or in protecting it from governmental investigations or other actions or lawsuits

stemming from a failure to be in compliance with such laws or regulations. It is possible that governmental and enforcement authorities will conclude that Altimmune's business practices may not comply with current or future statutes, regulations or case law interpreting applicable fraud and abuse or other health care laws and regulations. If Altimmune's operations are found to be in violation of any of the laws described above or any other governmental regulations that apply to it, it may be subject to penalties, including, without limitation, civil, criminal and administrative penalties, damages, monetary fines, disgorgement, possible exclusion from participation in Medicare, Medicaid and other federal health care programs, contractual damages, reputational harm, diminished profits and future earnings, and curtailment or restructuring of Altimmune's operations.

The impact of recent health care reform legislation and other changes in the health care industry and in health care spending on Altimmune is currently unknown, and may adversely affect its business model.

Altimmune’s financial prospects could be affected by changes in health care spending and policy in the United States and abroad. Altimmune operates in a highly regulated industry and new laws or judicial decisions, or new interpretations of existing laws or decisions, related to health care availability, the method of delivery or payment for health care products and services could negatively impact its business, operations and financial condition.

For example, in the United States there is significant interest in promoting health care reform, as evidenced by the enactment in the United States of the Patient Protection and Affordable Care Act and the companion Health Care and Education Reconciliation Act in 2010, or the Health Care Reform Law. The Health Care Reform Law increased federal oversight of private health insurance plans and included a number of provisions designed to reduce Medicare expenditures and the cost of health care generally, to reduce fraud and abuse, and to provide access to increased health coverage.

The Health Care Reform Law has also imposed substantial changes to the U.S. system for paying for health care, including programs to extend medical benefits to millions of individuals who have lacked insurance coverage. Generally, implementation of the Health Care Reform Law has thus far included significant cost-saving, revenue and payment reduction measures with respect to, for example, several government health care programs that might cover Altimmune’s products in the United States, should they be commercialized, including Medicaid and Medicare. Additional downward pricing pressure associated with the Health Care Reform Law includes that the Health Care Reform Law established and provided significant funding for a Patient-Centered Outcomes Research Institute to coordinate and fund Comparative Effectiveness Research, as those terms are defined in the Health Care Reform Law. While the stated intent of Comparative Effectiveness Research is to develop information to guide providers to the most efficacious therapies, outcomes of Comparative Effectiveness Research could influence the reimbursement or coverage for therapies that are determined to be less cost effective than others. Should any of Altimmune’s products be approved for sale, but then determined to be less cost effective than alternative therapies, the levels of reimbursement for these products, or the willingness to reimburse at all, could be impacted, which could materially impact its financial results.

Following President Trump's inauguration on January 20, 2017, he signed an Executive Order commanding federal agencies to try to waive or delay requirements of the Healthcare Reform Law that impose economic or regulatory burdens on states, families, the health-care industry and others. The Executive Order also declares that the administration will seek the “prompt repeal" of the law and that the government should prepare to “afford the states more flexibility and control to create a more free and open healthcare market.” The uncertain status of the Health Care Reform Law limits Altimmune’s ability to forecast changes that may occur in the future, which may have a negative impact on its business.

Another provision of the Health Care Reform Law, generally referred to as the Physician Payment Sunshine Act or Open Payments Program, has imposed new reporting and disclosure requirements for pharmaceutical and medical device manufacturers and distributions with certain FDA-approved products, such as approved vaccines, with regard to payments or other transfers of value made to certain U.S. health care practitioners, such as physicians and academic medical centers, and with regard to certain ownership interests held by physicians in reporting entities. The Centers for Medicare & Medicaid Services, or CMS, publishes information from these reports on a publicly available website, including amounts transferred and the physician and teaching hospital identities.

Under the Physician Payment Sunshine Act, Altimmune is required to collect and report detailed information regarding certain financial relationships it has with physicians and teaching hospitals. Altimmune's compliance with these rules may also impose additional costs. It is difficult to predict how the new requirements, which also preempt similar state law reporting requirements, may impact Altimmune's relationships between pharmaceutical companies and physicians or teaching hospitals.

It is likely that federal and state legislatures within the United States and foreign governments will continue to consider changes to existing health care legislation. Altimmune cannot predict the reform initiatives that may be adopted in the future or whether initiatives that have been adopted will be repealed or modified. The continuing efforts of the government, insurance companies, managed care organizations and other payers of health care services to contain or reduce costs of health care may adversely affect:

- the demand for any product candidates for which Altimmune may obtain regulatory approval;
- our ability to set a price that Altimmune believes is fair for its products;
- our ability to obtain coverage and reimbursement approval for a product;
- our ability to generate revenues and achieve or maintain profitability; and
- the level of taxes that Altimmune is required to pay.

Certain business practices associated with the commercialization of pharmaceutical products are subject to scrutiny by regulatory authorities, as well as to lawsuits brought by private citizens under federal and state laws. Failure to comply with applicable law or an adverse decision in lawsuits may result in adverse consequences to Altimmune.

The laws that would govern Altimmune's conduct in the United States upon the commercialization of its product candidates are enforceable by criminal, civil and administrative penalties. Violations of laws such as the Federal Food, Drug and Cosmetic Act, or the FDCA, the Federal False Claims Act, or the FCA, the Public Health Service Act, or PHS Act, or provisions of the U.S. Social Security Act known as the "Anti-Kickback Law" and the "Civil Monetary Penalties Law," or any regulations promulgated under their authority, may result in jail sentences, fines or exclusion from federal and state programs, as may be determined by Medicare, Medicaid, the Department of Defense, other regulatory authorities and the courts. There can be no assurance that Altimmune's activities will not come under the scrutiny of regulators and other government authorities or that its practices will not be found to violate applicable laws, rules and regulations or prompt lawsuits by private citizen "relators" under federal or state false claims laws.

Some of these laws, referred to as "false claims laws," prohibit the submission or causing the submission of false or fraudulent claims for reimbursement to federal, state and other health care payers and programs. Other laws, referred to as "anti-kickback laws," prohibit soliciting, offering, receiving or paying remuneration in order to induce the referral of a atient or ordering, purchasing, leasing or arranging for, or recommending ordering, purchasing or leasing of, items or services that are paid for by federal, state and other health care payers and programs. For example, the federal Anti-Kickback Law prohibits companies such as Altimmune from directly or indirectly soliciting, receiving, offering or paying any remuneration with the intent of generating referrals or orders for services or items covered by a government health care program. Many states have enacted similar laws. Courts have interpreted this law very broadly, including by holding that a violation has occurred if even one purpose of the remuneration is to generate referrals, even if there are other lawful purposes. There are statutory and regulatory exceptions, or safe harbors, that outline arrangements that are deemed lawful. However, the fact that an arrangement does not fall within a safe harbor does not necessarily render the conduct illegal under the Anti-Kickback Law. In sum, even common business arrangements, such as discounted terms and volume incentives for customers in a position to recommend or choose drugs for patients, such as physicians and hospitals, can result in substantial legal penalties, including, among others, exclusion from Medicare and Medicaid programs, and arrangements with referral sources must be structured with care to comply with applicable requirements. Also, certain business practices, such as payment of consulting fees to health care providers, sponsorship of educational or research grants, charitable donations, interactions with health care providers that prescribe products for uses not approved by the FDA and financial support for continuing medical education programs, must be conducted within narrowly prescribed and controlled limits to avoid the possibility of wrongfully influencing health care providers to prescribe or

purchase particular products or as a reward for past prescribing. Violations of the Anti-Kickback Law may be punished by civil and criminal penalties or exclusion from participation in federal health care programs, including Medicare and Medicaid.

The FCA is violated by any entity that "presents or causes to be presented" knowingly false claims for payment to the federal government. In addition, the Health Care Reform Law amended the FCA to create a cause of action against any person who knowingly makes a false statement material to an obligation to pay money to the government or knowingly conceals or improperly decreases an obligation to pay or transmit money or property to the government. For the purposes of these recent amendments, an "obligation" includes an identified overpayment, which is defined broadly to include "any funds that a person receives or retains under Medicare and Medicaid to which the person, after applicable reconciliation, is not entitled…"

The FCA is commonly used to sue those who submit allegedly false Medicare or Medicaid claims, as well as those who induce or assist others to submit a false claim. "False claims" can result not only from non-compliance with the express requirements of applicable governmental reimbursement programs, such as Medicare or Medicaid, but also from non-compliance with other laws, such as the Anti-Kickback Law, FDA laws on off-label promotion, or laws that require quality care in service delivery. The fraud and abuse regulations have been subject to varying interpretations, as well as heightened enforcement activity over the past few years. Significant enforcement activity has been the result of actions brought by relators, who file complaints in the name of the United States (and if applicable, particular states) under federal and state False Claims Act statutes. The qui tam and whistleblower provisions of the FCA allow private individuals to bring actions on behalf of the government alleging that the government was defrauded, with tremendous potential financial gain (up to 30% of the government's recovery plus legal fees) to private citizens who prevail. Also, violations of the FCA can result in treble damages and civil penalties ranging from $10,781 to $21,563 per claim. Most states have adopted similar state false claims laws, and these state laws have their own penalties which may be in addition to federal FCA penalties.

The bringing of any FCA action, even if unsuccessful, could require Altimmune to devote resources to investigate and defend the action, as well as result in reputational harm. Failure to comply with the fraud and abuse laws could result in significant civil and criminal penalties and costs, including the loss of licenses and the ability to participate in federal and state health care programs, and could have a material adverse effect on Altimmune's business. In addition, many of these laws are vague or indefinite and have not been interpreted by the courts, and have been subject to frequent modification and varied interpretation by prosecutorial and regulatory authorities, increasing the risk of noncompliance. Antimmune cannot predict whether changes in applicable law, or interpretation of laws, or changes in its services or marketing practices in response to changes in applicable law or interpretation of laws could have a material adverse effect on its business.

The FDA and comparable foreign regulatory authorities, in addition to prohibiting the promotion of the safety or effectiveness of product candidates not yet approved for commercialization, an act known as pre-approval promotion, also generally restrict companies from promoting approved products for indications other than those indications for which a product is approved, which is also referred to as off-label use. This means, for example, that Altimmune may not make claims about the use of its products, should they be approved for sale, outside of their approved indications, and Altimmune may not proactively discuss or provide information regarding any of their off-label uses subject to very specific and limited exceptions. In the United States, pharmaceutical companies have, to a limited extent, been recognized by the FDA as permitted to disseminate to physicians certain truthful and accurate information regarding unapproved uses of approved products, or results of studies involving investigational products.

If Altimmune or its business partners fail to comply with applicable laws and regulations governing off-label uses of its product candidates, if approved, then Altimmune could be subject to administrative or judicially imposed sanctions, including, but not limited to: (i) enforcement proceedings by regulatory agencies; (ii) reduced demand for its products; and (iii) civil or criminal sanctions. Furthermore, actions under the FCA have recently been brought against companies for allegedly promoting off-label uses of drugs, because such promotion induces the use and subsequent claims for reimbursement under Medicare and other federal programs. Similar actions for off-label promotion have been initiated by several states for Medicaid fraud. The Health Care Reform Law significantly strengthened provisions of the FCA, Medicare and Medicaid

Anti-Kickback provisions, and other health care fraud provisions, leading to the possibility of greatly increased qui tam suits by relators for perceived violations. Violations or allegations of violations of the foregoing restrictions could materially and adversely affect Altimmune's business.

If Altimmune's product candidates are commercialized, then it would also be required to report detailed and complex pricing information, net of included discounts, rebates and other concessions, to CMS for the purpose of calculating national reimbursement levels, certain federal prices and certain federal and state rebate obligations, and it would need to develop the expertise, as well as the systems for collecting and reporting this data accurately to CMS and have instituted a compliance program to assure that the information collected is complete in all respects. Companies that fail to accurately report this kind of pricing information to the U.S. government could be subject to fines and other sanctions (including potential False Claims Act liability) that could adversely affect their business.

Altimmune must comply with data privacy and security laws and regulations, and failure to comply with these laws and regulations could expose it to significant liabilities.

Altimmune must operate in compliance with various data privacy and security regulations in the United States by both the federal government and the states in which Altimmune conducts its business, as well as in other jurisdictions outside of the United States, such as the United Kingdom, where it conducts clinical trials. For example, the federal law, HIPAA, as amended by the Health Information Technology Clinical Health Act, or HITECH, and its implementing regulations, imposes specified requirements relating to the privacy, security and transmission of individually identifiable health information, such as information that identifies individuals who participate in Altimmune's clinical trials as research subjects. HIPAA requires, among other things, the implementation of various recordkeeping, operational, notice and other practices intended to safeguard protected health information, limit its use to allowed purposes, and notify individuals in the event of privacy and security breaches. Failure to comply with these laws and regulations can result in substantial penalties and other liabilities. In addition, state laws govern the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same requirements, thus complicating compliance efforts.

In the United Kingdom, the collection and use of "personal data" is primarily governed by the Data Protection Act 1998, or DPA, which implemented the EU Directive (95/46/EEC) on data protection. Breach of the UK data protection laws can result in criminal as well as civil liability. The DPA applies to the "processing" of personal data, or individually identifiable data relating to living individuals. All obligations under the DPA fall on the "data controller" who determines the purposes for which and the manner in which any personal data is, or is to be, processed. A person may be a data controller even if the information is held by a third party. If Altimmune is the data controllers for any personal data, including, for example, with respect to clinical trials carried out in the United Kingdom, it will need to comply with the DPA to ensure compliance by any third party who holds any relevant personal data.

Altimmune is subject to extensive government regulatory compliance and ethics oversight, and it will need to develop more extensive compliance and ethics policies in the future.

Altimmune's business is subject to extensive government regulation and ethics oversight, which will become more complex and extensive if it succeeds in commercializing products. Altimmune has enacted various compliance policies and procedures that govern its business practices as appropriate for a company in its stage of development. These policies and procedures are implemented through education, training and monitoring of Altimmune's employees, distributors and suppliers. However, Altimmune's adoption and enforcement of these various policies and procedures does not ensure that it will avoid investigation or the imposition of penalties by applicable government agencies.

In addition, to enhance compliance with applicable health care laws and mitigate potential liability in the event of non-compliance, regulatory authorities, such as the Office of the Inspector General, or OIG, of the HHS have recommended the adoption and implementation of a comprehensive health care compliance program that generally contains the elements of an effective compliance and ethics program described in Section 8B2.1 of the U.S. Sentencing Commission Guidelines Manual. Increasing numbers of U.S.-based pharmaceutical companies have such programs. Although Altimmune believes its existing compliance policies

and procedures are adequate for its current operations, these policies and procedures would not be considered a comprehensive health care compliance program consistent with the HHS OIG's recommendations. Depending upon the nature of its future operations, Altimmune anticipates developing a more extensive compliance program in the future.

Altimmune's employees, independent contractors, principal investigators, consultants, commercial partners and vendors may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements.

Altimmune is exposed to the risk of fraudulent or other illegal activity by its employees, independent contractors, principal investigators, consultants, commercial partners and vendors. Misconduct by these parties could include intentional, reckless and/or negligent conduct that fails to comply with the laws of the FDA and similar foreign regulatory bodies; fails to comply with manufacturing standards Altimmune has established, or with federal, state and foreign health care fraud and abuse laws and regulations; fails to report financial information or data accurately, including to Altimmune's regulators, such as the FDA and similar foreign regulatory bodies; or fails to disclose unauthorized activities to Altimmune. In particular, the promotion, sale and marketing of health care items and services, as well as certain business arrangements in the health care industry are subject to extensive laws and regulations intended to prevent misconduct, including fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and, structuring and commission(s), certain customer incentive programs and other business arrangements. See "— Risks Related to Reimbursement and Government Regulation — Certain business practices associated with the commercialization of pharmaceutical products are subject to scrutiny by regulatory authorities, as well as to lawsuits brought by private citizens under federal and state laws. Failure to comply with applicable law or an adverse decision in lawsuits may result in adverse consequences to Altimmune" under this section. Activities subject to these laws also involve the improper use of information obtained in the course of patient recruitment for clinical trials. Altimmune has adopted a Code of Business Conduct and Ethics Policy and other policies and practices that are designed to help ensure that it, its employees, officers, agents, intermediaries and other third parties comply with applicable laws, but it is not always possible to identify and deter such misconduct, and the precautions it takes to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting Altimmune from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against Altimmune, and in some cases regardless of the merits of those actions, those actions could have a significant impact on Altimmune's business, including the costs of investigation, settlement arrangements, imposition of civil, criminal and administrative penalties (such as Corporate Integrity Agreements and other arrangements, damages, monetary fines, disgorgement, and possible exclusion from participation in Medicare, Medicaid and other federal health care programs), contractual damages, reputational harm, diminished profits and future earnings, and curtailment or restructuring of Altimmune's operations, any of which could adversely affect its ability to operate its business and its results of operations.

In the United States, legislation limiting or restricting liability for medical products used to fight bioterrorism is new, and it cannot be certain that any such protection will apply to Altimmune's product candidates or if applied what the scope of any such coverage will be.

The Public Readiness Act creates general immunity for manufacturers of drug products used to address bioterrorism attacks, when the Secretary of HHS issues a declaration for their manufacture, administration or use. The declaration is meant to provide general immunity from all claims under state or federal law for loss arising out of the administration or use of a covered drug product, generally referred to as a "countermeasure." Manufacturers are excluded from this protection in cases of willful misconduct. Although Altimmune believes that its anthrax vaccine product candidate is covered under the general immunity provisions of the Public Readiness Act, there can be no assurance that this coverage will continue, or that the Secretary of HHS will make other declarations in the future that would cover any of Altimmune's other product candidates, or that the U.S. Congress will not act in the future to reduce coverage under the Public Readiness Act or to repeal it altogether.

In addition, under the Public Readiness Act, upon a declaration by the Secretary of HHS, a compensation fund would be created to provide "timely, uniform, and adequate compensation to eligible individuals for

covered injuries directly caused by the administration or use of a covered countermeasure." The "covered injuries" to which the program applies are defined as serious physical injuries or death. Individuals are permitted to bring a willful misconduct action against a manufacturer after they have exhausted their remedies under the compensation program. However, there is no assurance that the Secretary of HHS would issue under this act a declaration to establish a compensation fund.

Additionally, Altimmune is considering applying for liability protection under the Support Anti-terrorism by Fostering Effective Technologies Act of 2002, or the SAFETY Act, which provides certain protections that would limit the damages potentially faced by companies who provide certain "qualified" anti-terrorism products. However, Altimmune cannot be certain that it will be able to obtain or maintain coverage under the SAFETY Act. If the U.S. Department of Homeland Security limits the scope of any coverage awarded to Altimmune, denies it coverage or continued coverage for a particular product or product candidate, or delays in making decisions about whether to grant it coverage, it may become exposed to legal claims.

Altimmune is required to comply with certain export control laws which may limit its ability to sell its products to non-U.S. persons and may subject it to regulatory requirements that may delay or limit its ability to develop and commercialize its products.

Altimmune's product candidates are subject to the Export Administration Regulations, or EAR, administered by the U.S. Department of Commerce and are, in certain instances subject to the International Traffic in Arms Regulations, or ITAR, administered by the U.S. Department of State. EAR restricts the export of dual-use products and technical data to certain countries, while ITAR restricts the export of defense products, technical data and defense services. In addition, EAR and ITAR may also regulate the disclosure to certain foreign nationals in the United States, such as research staff, of technical data about controlled commodities. The U.S. government agencies responsible for administering EAR and ITAR have significant discretion in the interpretation and enforcement of these regulations. Failure to comply with these regulations can result in criminal and civil penalties and may harm Altimmune's ability to enter into contracts with the U.S. government. It is also possible that these regulations could adversely affect Altimmune's ability to sell its products to non-U.S. customers.

Altimmune's product candidates may also be subject to export control laws within the United Kingdom and European Union resulting in the need for authorization from customs authorities before they can leave the United Kingdom or European Union customs territories and restrictions on export from these territories to certain countries. Again, such laws could adversely affect Altimmune's ability to sell to customers in certain countries and non-compliance can result in civil and criminal penalties. Such restrictions exist across the European Union and within its member states individually and may vary between member states.

Altimmune must comply with environmental laws and regulations, and failure to comply with these laws and regulations could expose it to significant liabilities.

Altimmune uses hazardous chemicals and biological materials in certain aspects of its business and is subject to a variety of federal, state and local laws and regulations governing the use, generation, manufacture, distribution, storage, handling, treatment and disposal of these materials. Altimmune cannot eliminate the risk of accidental injury or contamination from the use, manufacture, distribution, storage, handling, treatment or disposal of hazardous materials. In the event of contamination or injury, or failure to comply with environmental, occupational health and safety and export control laws and regulations, Altimmune could be held liable for any resulting damages and any such liability could exceed its assets and resources. In addition, Altimmune may be required to pay damages or civil judgments related to third-party claims, for which it is uninsured, including those relating to personal injury (including exposure to hazardous chemicals and biological materials), product quality issues, property damage or contribution to remedial obligations.

If Altimmune uses biological and hazardous materials in a manner that causes contamination or injury or violates laws, it may be liable for damages.

Altimmune's research and development activities and clinical trials involve the use of potentially harmful biological materials, including anthrax, as well as hazardous materials and chemicals. Altimmune cannot completely eliminate the risk of accidental contamination or injury from the distribution, use, storage,

handling or disposal of these materials. In the event of contamination or injury, Altimmune could be held liable for damages that result, and any liability could exceed its available financial resources. Altimmune, its collaborative partners, the third parties that conduct clinical trials on its behalf, and its third-party manufacturers are subject to federal, state, local or foreign laws and regulations governing the use, storage, handling and disposal of these materials and waste products. The cost of compliance with these laws and regulations could be significant. The failure to comply with any of these laws and regulations could result in significant fines and work stoppages.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This registration statement on Form S-4, of which this proxy statement/prospectus/consent solicitation forms a part, and the documents to which PharmAthene refers you to in this registration statement, of which this proxy statement/prospectus/consent solicitation forms a part, as well as oral statements made or to be made by PharmAthene or Altimmune, include certain "forward-looking statements" within the meaning of, and subject to the safe harbor created by, Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), with respect to the businesses, strategies and plans of PharmAthene, Altimmune and the combined company, their expectations relating to the mergers and their future financial condition and performance. Statements included in or incorporated by reference by PharmAthene into this registration statement, of which this proxy statement/prospectus/consent solicitation forms a part, that are not historical facts, including statements about the beliefs and expectations of the management of PharmAthene and Altimmune are forward-looking statements. Words such as "believes," "anticipates," "estimates," "expects," "intends," "aims," "potential," "will," "would," "could," "considered," "likely," "estimate" and variations of these words and similar future or conditional expressions are intended to identify forward-looking statements but are not the exclusive means of identifying such statements. While the management of the respective parties believe these expectations, assumptions, estimates and projections are reasonable, such forward-looking statements are only predictions and involve known and unknown risks and uncertainties, many of which are beyond the control of PharmAthene, Altimmune and the combined company. By their nature, forward-looking statements involve risk and uncertainty because they relate to events and depend upon future circumstances that may or may not occur. Actual results may differ materially from the current expectations of PharmAthene and Altimmune depending upon a number of factors affecting their businesses and risks associated with the successful execution of the mergers and the integration and performance of their businesses following the mergers. These factors include, but are not limited to, risks and uncertainties detailed in PharmAthene's periodic public filings with the SEC, including those discussed in the sections entitled "Risk Factors" in PharmAthene's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, factors contained or incorporated by reference into such document and in subsequent filings by PharmAthene with the SEC, and the following factors:

- the timing and anticipated completion of the proposed mergers;
- the expected benefits of and potential value created by the proposed mergers for the stockholders of PharmAthene and Altimmune;
- the amount of cash and cash equivalents that will be available to fund the combined company's business after the mergers and the length of time that the combined company anticipates such cash and cash equivalents will be available to fund the combined company's operating plan after the mergers;
- the likelihood of the satisfaction of certain conditions to completion of the mergers and whether and when the mergers will be completed;
- the potential discovery of additional product candidates and the development, commercialization and expected benefit of current product candidates;
- the expected timing and results of preclinical and clinical trials;
- PharmAthene's and Altimmune's respective results of operations, financial condition and businesses and their respective objectives, plans and expectations;
- information about the combined company and the expected impact of the proposed mergers on the combined company and its future business, operating results and financial condition; and
- other statements that are not purely statements of historical fact.

We caution you not to place undue reliance on the forward-looking statements, which speak only as of the date of this proxy statement/prospectus/consent solicitation in the case of forward-looking statements contained in this proxy statement/prospectus/consent solicitation, or the dates of the documents incorporated by reference in this proxy statement/prospectus/consent solicitation in the case of forward-looking statements made in those incorporated documents. Except as may be required by law, neither PharmAthene nor Altimmune has any obligation to update or alter these forward-looking statements, whether as a result of new information, future events or otherwise.

All of the forward-looking statements PharmAthene makes in this document are qualified by the information contained or incorporated by reference into this proxy statement/prospectus/consent solicitation, including, but not limited to (i) the information contained under this section and (ii) the information discussed under the section entitled “Risk Factors” in PharmAthene's Annual Report on Form 10-K for the fiscal year ended December 31, 2016 and this proxy statement/prospectus/consent solicitation. Please see the section entitled “Where You Can Find Additional Information” beginning on page 269 of this proxy statement/prospectus/consent solicitation.

THE SPECIAL MEETING OF PHARMATHENE STOCKHOLDERS

General

This proxy statement/prospectus/consent solicitation is being furnished to PharmAthene stockholders on or about , 2017. PharmAthene is sending this proxy statement/prospectus/consent solicitation to its stockholders in connection with the solicitation of proxies by the PharmAthene Board of Directors for use at the PharmAthene special meeting and any adjournments or postponements of the meeting.

Date, Time and Place

The PharmAthene special meeting will be held at 9 a.m, local time, on May 4, 2017, at Dentons US LLP office at 1221 Avenue of the Americas, New York, NY 10020.

Purposes of the PharmAthene Special Meeting

1. To consider and vote upon a proposal to approve the issuance of PharmAthene common stock in the mergers contemplated by the Merger Agreement;
2. To vote on a proposal to approve and adopt the Merger Agreement, a copy of which is attached as Annex A to the proxy statement/prospectus/consent solicitation accompanying this notice;
3. To consider and vote upon a proposal to approve an amendment of PharmAthene's Certificate of Incorporation to effect a reverse stock split prior to the effective time of the Mergers at a Reverse Ratio of not less than 1-for-10 and not more than 1-for-75, with the exact Reverse Ratio to be finally determined and mutually agreed to by the PharmAthene and Altimmune Boards of Directors;
4. To consider and vote upon a proposal to approve the 2017 Omnibus Incentive Plan; and
5. To consider and vote upon a proposal to adjourn the PharmAthene special meeting, if necessary or advisable, to solicit additional proxies if there are not sufficient votes in favor of any of the proposals.

PharmAthene stockholders also will consider and act on any other matters as may properly come before the PharmAthene special meeting or any adjournment or postponement of the meeting, including any procedural matters incident to the conduct of the meeting.

Recommendations of the PharmAthene Board of Directors

The PharmAthene Board of Directors has determined and believes that the mergers and all related transactions, including the issuance of shares of PharmAthene common stock in the mergers, is advisable, fair to, and in the best interests of, PharmAthene and its stockholders. The PharmAthene Board of Directors unanimously recommends that PharmAthene stockholders vote:

- "**FOR**" PharmAthene Proposal No. 1 to approve the issuance of PharmAthene common stock in the mergers contemplated by the Merger Agreement;
- "**FOR**" PharmAthene Proposal No. 2 to approve and adopt the Merger Agreement, a copy of which is attached as Annex A to the proxy statement/prospectus/consent solicitation;
- "**FOR**" PharmAthene Proposal No. 3 to approve an amendment of PharmAthene's Certificate of Incorporation to effect a reverse stock split;
- "**FOR**" PharmAthene Proposal No. 4 to approve the 2017 Omnibus Incentive Plan; and
- "**FOR**" PharmAthene Proposal No. 5 to adjourn the PharmAthene special meeting, if necessary or advisable, to solicit additional proxies if there are not sufficient votes to approve any of the proposals.

Record Date and Voting Power

The close of business on March 22, 2017 has been fixed as the record date for determination of PharmAthene stockholders entitled to notice of, and to vote at, the PharmAthene special meeting or any adjournments or postponements of the meeting. Only holders of record of PharmAthene common stock at the

close of business on the record date are entitled to notice of, and to vote at, the PharmAthene special meeting. At the close of business on the record date, PharmAthene had 68,815,195 shares of common stock outstanding and entitled to vote. Each share of PharmAthene common stock entitles the holder thereof to one vote on each matter submitted for stockholder approval. Please see the section of this proxy statement/prospectus/consent solicitation entitled “Principal Stockholders of PharmAthene” for information regarding persons known to management of PharmAthene to be the beneficial owners of more than five percent of the outstanding shares of PharmAthene common stock.

Voting and Revocation of Proxies

The proxy accompanying this proxy statement/prospectus/consent solicitation is solicited on behalf of the PharmAthene Board of Directors for use at the PharmAthene special meeting. If you are a PharmAthene stockholder of record as of the record date for the PharmAthene special meeting, you may vote in person at the PharmAthene special meeting or vote by proxy over the Internet, by telephone or by using the enclosed proxy card. Whether or not you plan to attend the PharmAthene special meeting, PharmAthene urges you to vote by proxy to ensure your vote is counted. You still may attend the PharmAthene special meeting and vote in person if you already have voted by proxy.

PharmAthene stockholders that hold shares in a brokerage account or by another nominee are considered the beneficial owner of shares held in “street name” and will receive instructions from such nominee that must be followed in order to vote shares at the PharmAthene special meeting. Stockholders that hold their shares in “street name” and that wish to attend and vote in person at the PharmAthene special meeting must contact their broker, bank or other nominee to obtain evidence of ownership of PharmAthene common stock, such as a legal proxy, as of the record date for the special meeting. Stockholders that hold PharmAthene shares in “street name” may have their shares voted by their bank, broker or other nominee even if they do not attend the PharmAthene special meeting, but only with respect to “routine” proposals. None of the proposals being presented to PharmAthene stockholders at the PharmAthene special meeting is a routine matter. Accordingly, brokers, banks or other nominees cannot vote shares on any such proposal without specific instructions from the beneficial owner of the shares. If any PharmAthene stockholder fails to provide instructions with respect to these proposals, the stockholder's broker, bank or other nominee must deliver a proxy card to PharmAthene expressly indicating that it is NOT voting the beneficial holder's shares, which is referred to as a “broker non-vote.” See the section below entitled “— Quorum and Required Vote” for details regarding the impact of broker non-votes on the proposals being considered at the PharmAthene special meeting. A beneficial owner of PharmAthene common stock that holds shares in “street name” must follow directions received from the bank, broker or other nominee that holds the shares to change its voting instructions.

All properly executed proxies that are not revoked will be voted at the PharmAthene special meeting and at any adjournments or postponements of the meeting in accordance with the instructions contained in the proxy. If a holder of PharmAthene common stock executes and returns a proxy and does not specify otherwise, the shares represented by that proxy will be voted “**FOR**” each of the five proposals. Any PharmAthene stockholder of record voting by proxy, other than those stockholders who have executed the PharmAthene Voting Agreement, has the right to revoke the proxy at any time before the polls close at the PharmAthene special meeting by sending a written notice stating that it would like to revoke its proxy to the corporate secretary of PharmAthene, by voting again or by providing a duly executed proxy card bearing a later date than the proxy being revoked or by attending the PharmAthene special meeting and voting in person. Attendance alone at the PharmAthene special meeting will not revoke a proxy.

Quorum and Required Vote

A quorum is the number of shares that must be represented in person or by proxy in order for business to be transacted at the PharmAthene special meeting. A quorum will be present at the PharmAthene special meeting if holders of a majority of the shares of PharmAthene's common stock entitled to vote at the PharmAthene special meeting are present in person or by proxy. Abstentions and broker non-votes will count as present for the purpose of establishing a quorum. If there are not sufficient votes in favor of any proposal, the holders of a majority of the shares entitled to vote at the PharmAthene special meeting who are present in person or represented by proxy may adjourn the PharmAthene special meeting to another date.

A description of the vote required to approve each proposal being submitted to a vote of PharmAthene stockholders is included with the description of each proposal. If shares are held in “street name” and stockholders holding such shares do not direct their brokers how to vote with respect to any of the proposals, their brokers may not exercise discretion and may not vote their shares on that proposal. For purposes of Proposal Nos. 1 through 5, broker non-votes are considered to be shares represented by proxy at the PharmAthene special meeting but are not considered to be shares “entitled to vote” at the meeting. As such, a broker non-vote will have no effect on the outcome of Proposal Nos. 1, 2, 4, and 5. Broker non-votes will have the effect of a vote “Against” Proposal No. 3. Proxies marked “Abstain” will be counted in determining the total number of shares “entitled to vote” on each of the proposals being submitted to a vote of PharmAthene stockholders and will have the effect of a vote “Against” all of the proposals.

Concurrently and in connection with the execution of the Merger Agreement, certain PharmAthene stockholders who beneficially owned approximately 4,889,087 of the outstanding shares of PharmAthene common stock as of March 22, 2017, entered into the PharmAthene Voting Agreement, pursuant to which such PharmAthene stockholders agreed to vote their shares of PharmAthene common stock in favor of the adoption of the Merger Agreement and against any amendment of PharmAthene's certificate of incorporation or bylaws or any other proposal or transaction involving PharmAthene, the effect of which amendment or other proposal or transaction is to delay, impair, prevent or nullify the mergers or the transactions contemplated by the Merger Agreement or change in any manner the voting rights of any capital stock of PharmAthene. The signatories thereto may not sell or transfer their shares other than under specified circumstances pursuant to the PharmAthene Voting Agreement. The PharmAthene Voting Agreement will terminate upon, among other things, the earlier of the Effective Time or termination of the Merger Agreement. Please see the section of this proxy statement/prospectus/consent solicitation entitled “Voting and Other Agreements — PharmAthene Voting Agreement.”

Solicitation of Proxies

In addition to solicitation by mail, the directors, officers, employees and agents of PharmAthene may solicit proxies from PharmAthene stockholders by personal interview, telephone, telegram or other electronic means. PharmAthene will bear the costs of the solicitation of proxies by PharmAthene from PharmAthene stockholders. Arrangements also will be made with brokerage firms and other custodians, nominees and fiduciaries who are record holders of PharmAthene common stock for the forwarding of solicitation materials to the beneficial owners of PharmAthene common stock. PharmAthene will reimburse these brokers, custodians, nominees and fiduciaries for the reasonable out-of-pocket expenses they incur in connection with the forwarding of solicitation materials. PharmAthene has retained Okapi Partners, LLC, a proxy solicitation firm, to assist in the solicitation of proxies for the matters being submitted to PharmAthene stockholders for a fee of approximately $17,000 plus reimbursement of expenses.

Other Matters

As of the date of this proxy statement/prospectus/consent solicitation, the PharmAthene Board of Directors does not know of any business to be presented at the PharmAthene special meeting other than as set forth in the notice accompanying this proxy statement/prospectus/consent solicitation. If any other matters should properly come before the PharmAthene special meeting, or any adjournment or postponement of the PharmAthene special meeting, it is intended that the shares represented by proxies will be voted with respect to such matters in accordance with the best judgment of the person(s) voting the proxies, pursuant to the discretionary authority granted to such person(s).

MATTERS BEING SUBMITTED TO A VOTE OF PHARMATHENE STOCKHOLDERS

PharmAthene Proposal No. 1 — The Issuance of Shares of PharmAthene Common Stock in the Mergers

At the PharmAthene special meeting, PharmAthene stockholders will be asked to approve the issuance of shares of PharmAthene common stock in the mergers. Pursuant to the terms of the Merger Agreement and Exchange Ratio, upon completion of the mergers, each of Altimmune's outstanding shares of common stock and preferred stock (excluding Altimmune treasury shares, shares of Altimmune owned by PharmAthene or its subsidiaries or dissenting shares) will be converted into the right to receive a number of shares of PharmAthene common stock such that the holders of outstanding equity of Altimmune immediately prior to the Effective Time will own 58.2% of the outstanding equity of PharmAthene immediately following the Effective Time and holders of outstanding equity of PharmAthene immediately prior to the Effective Time will own 41.8% of the outstanding equity of PharmAthene immediately following the Effective Time in each case, on a fully diluted basis. For additional details, please see the section of this proxy statement/prospectus/consent solicitation entitled “The Merger Agreement — Merger Consideration.”

If the mergers had been completed on March 22, 2017, the record date for the PharmAthene special meeting, and after giving effect to a reverse stock split at an assumed Reverse Ratio of 1:20, an aggregate of approximately 3.7 million shares of PharmAthene common stock would have been issuable to Altimmune stockholders upon completion of the mergers, not including 890,299 shares of PharmAthene common stock issuable upon exercise of Altimmune options assumed by PharmAthene in the mergers and not including 312,105 shares of PharmAthene common stock issuable upon exercise of Altimmune warrants assumed by PharmAthene in the mergers. PharmAthene stockholder approval of this Proposal No. 1 is required as a condition to the mergers; accordingly, even if PharmAthene stockholders approve the other proposals, the mergers will not be completed unless this Proposal No. 1 is also approved.

PharmAthene's Board of Directors believes that the issuance of shares of PharmAthene common stock in the mergers is in the best interests of PharmAthene and its stockholders. If PharmAthene's stockholders do not approve this Proposal No. 1, the mergers cannot be completed and PharmAthene would be required to seek other strategic opportunities to deliver stockholder value.

The terms of, reasons for and other aspects of the Merger Agreement, the mergers and the issuance of shares of PharmAthene common stock in the mergers are described in detail in the other sections of this proxy statement/prospectus/consent solicitation. The full text of the Merger Agreement is attached to this proxy statement/prospectus/consent solicitation as Annex A.

Vote Required; Recommendation of the PharmAthene Board of Directors

The affirmative vote of the holders of a majority of the shares of PharmAthene common stock entitled to vote on the proposal and present in person or represented by proxy, is required for approval of PharmAthene Proposal No. 1. **Each of PharmAthene’s Proposals Nos. 1, 2, 3 and 4 are conditioned upon each other. Therefore, the mergers cannot be consummated without the approval of PharmAthene’s Proposals Nos. 1, 2, 3 and 4.**

A failure to vote by proxy or in person at the PharmAthene special meeting or a “broker non-vote” will have no effect on the outcome of PharmAthene Proposal No. 1. For purposes of the vote on this PharmAthene Proposal No. 1, an abstention will have the same effect as a vote “AGAINST” such proposal.

The PharmAthene Board of Directors unanimously recommends that PharmAthene stockholders vote “FOR” PharmAthene's Proposal No. 1 to approve the issuance of shares of PharmAthene common stock in the mergers.

PharmAthene Proposal No. 2 — Approval and Adoption of the Merger Agreement

PharmAthene stockholders are asked to approve and adopt the Merger Agreement on substantially the terms and conditions set forth in the Merger Agreement. For a summary and detailed information regarding the proposal to approve and adopt the Merger Agreement, see the information about the Merger Agreement and the mergers throughout this proxy statement/prospectus/consent solicitation, including the information set forth in sections entitled “The Mergers” beginning on page 106 and “The Merger Agreement” beginning on page 139. A copy of the Merger Agreement is attached as Annex A to this proxy statement/prospectus/consent solicitation.

Pursuant to the Merger Agreement, approval and adoption of the Merger Agreement is a condition to the closing of the mergers. If this PharmAthene Proposal No. 2 is not approved, the mergers will not be completed even if the other proposals related to the mergers are approved.

Vote Required; Recommendation of the PharmAthene Board of Directors

The mergers between (i) Merger Sub Corp with and into Altimmune, with Altimmune surviving such merger and (ii) immediately thereafter, Altimmune with and into Merger Sub LLC, with Merger Sub LLC as the surviving entity in such merger, cannot be completed without the approval of the Merger Agreement by the affirmative vote of the holders of a majority of the shares of PharmAthene common stock entitled to vote on the proposal and present in person or represented by proxy. A failure to vote or a "broker non-vote" will not have any effect on the proposal to approve and adopt the Merger Agreement and provided that a quorum is present at the PharmAthene special meeting. For purposes of the vote on this Proposal No. 2, an abstention will have the same effect as a vote "AGAINST" such proposal. **Each of PharmAthene's Proposals Nos. 1, 2, 3 and 4 are conditioned upon each other. Therefore, the mergers cannot be consummated without the approval of PharmAthene's Proposals Nos. 1, 2, 3 and 4.**

The PharmAthene Board of Directors after due and careful discussion and consideration, has (i) approved and declared advisable the Merger Agreement, the mergers and all of the other transactions contemplated by the Merger Agreement and (ii) declared that it is in the best interests of PharmAthene and its stockholders that PharmAthene enter into the Merger Agreement and consummate the mergers and all of the other transactions contemplated by the Merger Agreement.

The PharmAthene Board of Directors unanimously recommends that PharmAthene stockholders vote "FOR" the PharmAthene Proposal No. 2 to approve and adopt the Merger Agreement.

PharmAthene Proposal No. 3 — Approval of Charter Amendment for a Reverse Stock Split

At the PharmAthene special meeting, PharmAthene stockholders will be asked to approve an amendment of PharmAthene's Certificate of Incorporation (the "Charter Amendment") to permit the PharmAthene Board of Directors to effect a reverse stock split of PharmAthene's issued and outstanding common stock immediately prior to the Effective Time of the mergers (the "Reverse Split Amendment").

To enable PharmAthene to effect the mergers, PharmAthene's Board of Directors has adopted resolutions recommending that the stockholders grant authority to PharmAthene's Board of Directors to effect a reverse stock split of PharmAthene's issued and outstanding shares of common stock (the "Reverse Split") immediately prior to the Effective Time (provided the Merger Agreement has not been terminated) at a Reverse Ratio of not less than 1-for-10 and not more than 1-for-75, with the exact Reverse Ratio to be finally determined and mutually agreed to by the PharmAthene and Altimmune Boards of Directors and publicly announced.

Since the Reverse Split will not reduce the number of shares of authorized PharmAthene common stock provided in the certificate of incorporation, as amended, the Reverse Split would also result in a significant increase in the number of authorized and unissued shares of PharmAthene common stock. This will facilitate PharmAthene's ability to issue the merger consideration due to Altimmune security holders in connection with the mergers, as Altimmune stockholders will have the right to receive, for each share of Altimmune common stock and preferred stock they hold, that number of shares of PharmAthene common stock, as determined pursuant to the Exchange Ratio described in the Merger Agreement and in the section of this proxy statement/prospectus/consent solicitation entitled "The Merger Agreement — Merger Consideration."

The Reverse Stock Split will be effectuated pursuant to the Reverse Split Amendment to PharmAthene's Certificate of Incorporation, substantially in the form which has been attached hereto as Annex I, if at all and at the rate to be determined by the PharmAthene and Altimmune Boards to be publicly announced.

Pursuant to the Merger Agreement, approval of the Charter Amendment to effect the Reverse Split is a condition to the closing of the mergers. If this Proposal No. 3 is not approved, the mergers will not be completed even if the other proposals related to the mergers are approved.

Effects of Reverse Split

Following the effectiveness, if any, of a Reverse Split if approved by PharmAthene's stockholders, holders of PharmAthene common stock immediately prior to the Effective Time will hold fewer shares of PharmAthene common stock, with such number of shares dependent on the Reverse Ratio ratified by PharmAthene's Board of Directors in consultation with Altimmune. For example, if PharmAthene's Board of Directors, approves of a 1-for-50 Reverse Split, a PharmAthene stockholder owning 1,000 shares of common stock prior to such Reverse Split would hold 20 shares of common stock following such Reverse Split. THE HIGHER THE REVERSE RATIO (1-FOR-50 BEING HIGHER THAN 1-FOR-20, FOR EXAMPLE), THE GREATER THE REDUCTION OF RELATED SHARES EACH EXISTING PHARMATHENE STOCKHOLDER, POST REVERSE SPLIT, WILL EXPERIENCE.

In deciding whether to implement the Reverse Split and the Reverse Ratio to be used, PharmAthene's Board of Directors will consider, primarily, satisfaction of the condition to the Merger Agreement to effect the Reverse Split, and the combined company's satisfaction of the initial listing requirements of NYSE MKT. PharmAthene's Board of Directors and Altimmune may also consider among other things: (i) the market price of PharmAthene's common stock at the time of the Reverse Split; (ii) the number of shares that will be outstanding immediately following the Reverse Spit but prior to the Effective Time; (iii) the number of PharmAthene shares to be issued in accordance with the Exchange Ratio pursuant to the Merger Agreement; (iv) market conditions; (v) the shares of common stock available to the combined company for issuance in the future; and (vi) existing and expected trading prices. PharmAthene's Board of Directors maintains the right to elect not to proceed with the Reverse Split if the Merger Agreement is terminated, at its sole discretion.

The Reverse Split Amendment will not change the terms of PharmAthene's common stock, or reduce the number of shares of PharmAthene common stock authorized under PharmAthene's certificate of incorporation. After the Reverse Split, the shares of common stock will have the same voting rights and rights to dividends and distributions and will be identical in all other respects to the PharmAthene common common stock now authorized. Each stockholder's percentage ownership of the new PharmAthene common common stock will not be altered except for the effect of eliminating fractional shares and the mergers. The PharmAthene common common stock issued pursuant to the Reverse Split will remain fully paid and non-assessable. The Reverse Split is not intended as, and will not have the effect of, a “going private transaction” covered by Rule 13e-3 under the Exchange Act. Following the Reverse Split, we will issue the merger consideration required by the Exchange Ratio set forth in the Merger Agreement, and will still be subject to the periodic reporting requirements of the Exchange Act.

Purposes of the Reverse Split

The Merger Agreement requires PharmAthene to effect the Reverse Split prior to the Effective Time, as a condition to the closing of the mergers. Accordingly, the purpose of the Reverse Split, among others, is to satisfy this closing condition so that the mergers may be completed. If this PharmAthene Proposal No. 3 is not approved, the mergers will not be completed even if the other proposals related to the mergers are approved. In addition to satisfying the condition of the Merger Agreement requiring the Reverse Split, the Reverse Split will also ensure that PharmAthene will, immediately prior to the Effective Time, have a sufficient number of authorized shares of its common stock to issue to Altimmune security holders, in such amount as required by the Exchange Ratio in the Merger Agreement. The amendment to authorize the Reverse Split is also expected to benefit the combined company, on a post-mergers basis, by providing it with needed and appropriate flexibility to issue shares for future corporate and financing needs, and to facilitate the ability of the combined company to satisfy the NYSE MKT's initial listing criteria. Since the Reverse Split will not reduce the number of authorized shares of common stock, it will act to increase the number of available shares of authorized common stock that may be issued by the combined company's Board of Directors in its discretion, subject to any further stockholder action required in the case of any particular issuance, including under the organizational documents of the combined company, applicable law, agreements or contracts, regulatory authorities, and the rules of the NYSE MKT. The increased number of authorized but unissued shares of common stock available would be issuable for any proper corporate purpose, including without limitation, in the mergers, in future capital raising transactions of equity or convertible debt securities, or upon exercise of warrants or, upon future acquisitions or other investment opportunities, in connection with stock dividends, or under current or future equity compensation plans.

PharmAthene's Board of Directors believes the future Reverse Split Amendment will allow PharmAthene to (i) consummate the mergers contemplated by the Merger Agreement; (ii) facilitate the combined company's ability to successfully list on NYSE MKT, create a marketplace for its shares and increase its visibility, encourage investor interest and improve the marketability of the combined company's common stock to a broader range of investors, and thus improve liquidity; (iii) create a capital structure that better reflects a potentially profitable combined company; (iv) better enable the combined company to raise funds to finance its business operations; and (v) facilitate higher levels of institutional stock ownership in the combined company where investment policies may otherwise prohibit investments in lower-priced securities.

Risks Associated with the Reverse Split

Stockholders should note that the effect of the Reverse Split upon the market price for the combined company's common stock cannot be predicted accurately. In particular, we cannot assure you that prices for shares of the combined company's common stock after the Reverse Split will be proportional to the Reverse Ratio based on the prices for shares of PharmAthene's common stock immediately prior to the Reverse Split. The market price of the combined company's common stock may also be affected by other factors which may be unrelated to the Reverse Split, the mergers or the number of shares outstanding. Furthermore, even if the market price of the combined company's common stock does rise following the Reverse Split, we cannot assure you that the market price of the combined company's common stock immediately after the proposed Reverse Split will be maintained for any period of time. Even if an increased per-share price can be maintained, the Reverse Split may not achieve the desired results that have been outlined above. Moreover, because some investors may view the Reverse Split negatively, we cannot assure you that the Reverse Split will not adversely impact the market price of the combined company's common stock.

PharmAthene common stock is currently listed on the NYSE MKT. Altimmune is a private company and its capital stock is not listed on an exchange. According to applicable NYSE MKT market rules, a listed company must apply for initial listing following a transaction in which it combines with a non-NYSE MKT listed entity, resulting in a change of control of the listed company and potentially allowing the non-listed entity to obtain a NYSE MKT listing. Accordingly, PharmAthene intends to file an initial listing application with NYSE MKT on behalf of the combined company to seek listing of the combined company’s common stock on the NYSE MKT upon the closing of the mergers. The listing standards of NYSE MKT will require the combined company to have, among other things, a $2.00 or $3.00 per share minimum bid price upon the closing of the mergers, depending on which listing standard the combined company seeks to satisfy.

The PharmAthene board of directors expects that the Reverse Split will increase the market price of PharmAthene common stock so that PharmAthene is able to satisfy compliance with the relevant NYSE MKT listing requirements upon completion of the mergers. While PharmAthene believes that the combined company will satisfy the initial listing criteria, we cannot assure you that the combined company will be successful in doing so, or if it does satisfy the initial listing criteria, that it will continue to meet all requisite continued listing criteria in the future.

We believe that the Reverse Split may result in greater liquidity for the combined company's stockholders. However, it is also possible that such liquidity could be adversely affected by the reduced number of shares outstanding after the Reverse Split, and the issuance of additional shares following the mergers, particularly if the share price does not increase as a result of the Reverse Split.

If the Reverse Split is implemented, some stockholders may consequently own less than 100 shares of common stock. A purchase or sale of less than 100 shares (an “odd lot” transaction) may result in incrementally higher trading costs through certain brokers, particularly “full service” brokers. Therefore, those stockholders who own less than 100 shares following the Reverse Split may be required to pay higher transaction costs if they sell their shares in the combined company.

Anti-takeover effects of a Reverse Split

Release No. 34-15230 of the staff of the SEC requires disclosure and discussion of the effects of any action, including the proposals discussed herein, that may be used as an anti-takeover mechanism. Even though the Reverse Split will not be accompanied by a reduction in the number of the authorized shares of PharmAthene common stock, depending on the Reverse Ratio effected by PharmAthene's Board of Directors,

the Reverse Split Amendment may result in a relative increase in the number of authorized but unissued shares of PharmAthene common stock vis-à-vis the outstanding shares of PharmAthene common stock and, could, under certain circumstances, have an anti-takeover effect, although this is not the purpose or intent of PharmAthene's Board of Directors. The purpose and intent of PharmAthene's Board of Directors is to comply with the closing conditions of the mergers as required by the Merger Agreement, have sufficient authorized shares available for the issuance of the merger consideration in accordance with the Exchange Ratio and facilitate the ability of the combined company to have its shares of common stock listed on the NYSE MKT. An increase in the authorized number of shares of PharmAthene common stock could have other effects on PharmAthene's or Altimmune's stockholders, depending upon the exact nature and circumstances of any actual issuances of authorized but unissued shares. An increase in outstanding shares of PharmAthene common stock could potentially deter takeovers, including takeovers that PharmAthene's Board of Directors has determined are not in the best interest of PharmAthene stockholders, in that additional shares could be issued (within the limits imposed by applicable law and limitations of the Merger Agreement) in one or more transactions that could make a change in control or takeover more difficult. For example, if Altimmune consented or the Merger Agreement were terminated, PharmAthene could issue additional shares so as to dilute the stock ownership or voting rights of persons seeking to obtain control without PharmAthene's agreement. Similarly, the issuance of additional shares to certain persons allied with PharmAthene management could have the effect of making it more difficult to remove PharmAthene's current management by diluting the stock ownership or voting rights of persons seeking to cause such removal. The Reverse Split therefore may have the effect of discouraging unsolicited takeover attempts. By potentially discouraging initiation of any such unsolicited takeover attempts, the Reverse Split may limit the opportunity for PharmAthene stockholders to dispose of their shares at the higher price generally available in takeover attempts or that may be available under a merger proposal. However, PharmAthene's Board of Directors is not aware of any attempt to take control of PharmAthene's business and PharmAthene's Board of Directors has not considered the Reverse Split to be a tool to be utilized as a type of anti-takeover device.

Exchange of Certificate and Elimination of Fractional Share Interests

Upon the effectiveness of the Reverse Split, a certain number of shares of PharmAthene common stock (depending on the Reverse Ratio chosen) will automatically be changed into one share of PharmAthene common stock. Holders of PharmAthene common stock will not be required to exchange their certificates representing shares of common stock held prior to the Reverse Split for new certificates representing shares of common stock. Therefore, it is not necessary for you to send PharmAthene your stock certificates. If, however, a stockholder wishes to exchange such stockholder's certificates, the stockholder may do so by surrendering its certificate to the combined company's transfer agent after the Effective Time, with a request for a replacement certificate and the appropriate stock transfer fee.

Fractional Shares

No fractional shares of PharmAthene common stock will be issued as a result of the Reverse Split. Stockholders of record who otherwise would be entitled to receive fractional shares will be entitled to receive cash (without interest and subject to applicable withholding taxes) in lieu of such fractional shares. The total amount of cash that will be paid to holders of fractional shares following the Reverse Split will be an amount equal to the net proceeds (after customary brokerage commissions, other expenses and applicable withholding taxes) attributable to the sale of such fractional shares following the aggregation and sale by PharmAthene or its agent of all fractional interests otherwise issuable. Holders of fractional interests as a result of the Reverse Split will be paid such proceeds on a pro rata basis, depending on the fractional interests that they owned.

No Dissenters Rights

In connection with the approval of the Reverse Split, stockholders of PharmAthene immediately prior to the Reverse Split will not have a right to dissent and obtain payment for their shares under the DGCL, PharmAthene’s certificate of incorporation or bylaws.

CERTAIN MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES OF THE REVERSE SPLIT

The following discussion summarizes certain material U.S. federal income tax consequences of the Reverse Split to U.S. holders (as defined in the section of this proxy statement/prospectus/consent solicitation entitled "Certain Material U.S. Federal Income Tax Consequences of the Mergers" inserting "PharmAthene" for "Altimmune capital") of PharmAthene common stock. This summary is based upon current provisions of the Internal Revenue Code of 1986, as amended (the "Code"), existing Treasury Regulations promulgated thereunder and current administrative rulings and court decisions, all of which are subject to change or to differing interpretations, possibly with retroactive effect. Any change could alter the tax consequences to PharmAthene or PharmAthene stockholders, as described in this summary. This summary is not binding on the Internal Revenue Service (the "IRS"), and there can be no assurance that the IRS (or a court, in the event of an IRS challenge) will agree with the conclusions stated herein.

This discussion does not address all of the U.S. federal income tax consequences of the Reverse Split that may be relevant to PharmAthene stockholders in light of their particular circumstances and does not apply to stockholders that are subject to special treatment under U.S. federal income tax laws, including, without limitation:

- dealers, brokers and traders in currencies or securities;
- former U.S. citizens or long-term residents of the United States subject to Section 877 or 877A of the Code;
- tax-exempt entities;
- financial institutions, regulated investment companies, real estate investment trusts or insurance companies;
- partnerships, limited liability companies that are not treated as corporations for U.S. federal income tax purposes, subchapter S corporations and other pass-through entities and investors in such entities;
- an estate or trust;
- holders who are subject to the alternative minimum tax provisions of the Code;
- holders who acquired their shares in connection with stock option or stock purchase plans or through a tax-qualified plan, or in other compensatory transactions;
- holders who hold their shares as part of an integrated investment such as a hedge or as part of a hedging, straddle or other risk reduction strategy;
- holders who hold their shares as "qualified small business stock" within the meaning of Section 1202 of the Code;
- holders who do not hold their shares as capital assets within the meaning of Section 1221 of the Code (generally, property held for investment will be a capital asset);
- holders who have a functional currency other than the U.S. dollar; or
- holders who are not U.S. holders (as defined above).

In addition, the following discussion does not address:

- the tax consequences of the Reverse Split under any U.S. federal non-income tax laws or under state, local or non-U.S. tax laws;
- the tax consequences of transactions effectuated before, after or at the same time as the Reverse Split, whether or not they are in connection with the Reverse Split; and
- the tax consequences of the exchange of any PharmAthene stock that constitutes "Section 306 stock" within the meaning of Section 306 of the Code.

The opinion of counsel will not bind the courts, nor will it preclude the IRS from adopting a position contrary to those expressed in the opinion. PharmAthene does not intend to obtain a ruling from the IRS with respect to the U.S. federal income tax consequences of the Reverse Split.

Accordingly, PharmAthene stockholders are advised and expected to consult their own tax advisors regarding the U.S. federal income tax consequences of the Reverse Split in light of their personal circumstances and the consequences of the Reverse Split under U.S. federal non-income tax laws and state, local and non-U.S. tax laws.

This discussion does not address the tax consequences to holders who are not U.S. holders.

Subject to the qualifications, assumptions and limitations in the opinion of Dentons US LLP, the statements of law and legal conclusions set forth in this section entitled "Certain Material U.S. Federal Income Tax Consequences of the Reverse Split" represent the opinion of Dentons US LLP. The Reverse Split is expected to qualify as a "recapitalization" within the meaning of Section 368(a) of the Code. Assuming that the Reverse Split so qualifies, the following U.S. federal income tax consequences will result to U.S. holders and PharmAthene:

No gain or loss will be recognized by PharmAthene as a result of the Reverse Split;

- A PharmAthene stockholder generally will recognize no gain or loss upon the receipt of PharmAthene common stock in the Reverse Split, except to the extent of cash received in lieu of a fractional share, as described below;
- A PharmAthene stockholder's aggregate tax basis in the post-Reverse Split shares of PharmAthene common stock received in the Reverse Split will be equal to the aggregate tax basis in the pre-Reverse Split shares of PharmAthene common stock surrendered in exchange therefor, reduced, in general, by the amount of the adjusted tax basis of any pre-Reverse Split shares in exchange for such post-Reverse Split shares that is allocated to any fractional share for which cash is received; and
- A PharmAthene stockholder's holding period of the post-Reverse Split shares PharmAthene common stock received in the Reverse Split will generally include such stockholder's holding period of the pre-Reverse Split shares surrendered in exchange therefor.

Cash Received In Lieu of a Fractional Share

A U.S. holder who receives cash in lieu of a fractional share of post-Reverse Split shares should be treated as having received the fractional share of post-Reverse Split shares pursuant to the Reverse Split and then as having exchanged the fractional share of post-Reverse Split shares for cash in a redemption by PharmAthene. In general, this deemed redemption should be treated as a sale or exchange, provided the redemption is "not essentially equivalent to a dividend" as discussed below. Gain or loss generally would be recognized based on the difference between the amount of cash received and the portion of the U.S. holder's adjusted tax basis of the pre-Reverse Split shares exchanged in the Reverse Split which is allocable to such fractional share. Such gain or loss generally will be long-term capital gain or loss if the U.S. holder's holding period for such pre-Reverse Split shares is more than one year as of the effective date of the Reverse Split, and otherwise will be short-term capital gain or loss. The deductibility of capital losses is subject to limitations.

The receipt of cash is "not essentially equivalent to a dividend" if the reduction in a U.S. holder's proportionate interest in PharmAthene resulting from the Reverse Split (taking into account for this purpose shares of common stock and other shares of stock of PharmAthene which such holder is considered to own under certain attribution rules) is considered a "meaningful reduction" given such U.S. holder's particular facts and circumstances. Although not clear, the IRS has ruled that a small reduction by a minority stockholder whose relative stock interest is minimal and who exercises no control over the affairs of a corporation can satisfy this test. If the receipt of cash in lieu of a fractional share is not treated as capital gain or loss under the test described above, it will be treated first as dividend income to the extent of a U.S. holder's ratable share of PharmAthene's current and accumulated earnings and profits, then as a tax-free return of capital to the extent of the U.S. holder's adjusted tax basis of the pre-Reverse Split shares which is

allocable to such fractional share, and any remaining amount will be treated as capital gain. Any remaining tax basis should be added to the post-Reverse Split shares held by the U.S. holder.

Information Reporting and Backup Withholding

Payment of cash in lieu of fractional shares within the United States may be subject to both backup withholding (currently at a rate of 28 percent) and information reporting. However, backup withholding will not apply to a holder who furnishes a valid taxpayer identification number and complies with certain certification procedures or otherwise establishes an exemption from backup withholding. Backup withholding is not an additional U.S. federal income tax. Any amounts so withheld will be allowed as a refund or credit against the PharmAthene stockholder's U.S. federal income tax liability (if any), provided that the PharmAthene stockholder timely furnishes the required information to the IRS.

The foregoing summary of material U.S. federal income tax consequences is not intended to be a complete analysis or description of all potential U.S. federal income tax consequences of the Reverse Split. In addition, the summary does not address tax consequences that may vary with, or are contingent on, individual circumstances. Moreover, the summary does not address any U.S. federal non-income tax or any non-U.S., state or local tax consequences of the Reverse Split, nor any tax consequences of any transaction other than the Reverse Split. Accordingly, each PharmAthene stockholder is strongly urged to consult his, her or its own tax advisor to determine the particular federal, state, local, or non-U.S. income or other tax consequences of the Reverse Split to such PharmAthene stockholder.

Vote Required for Charter Amendment; Recommendation of the PharmAthene Board of Directors

The DGCL provides that the Charter Amendment Proposal to approve the Reverse Split Amendment must be approved by the affirmative vote of the holders of a majority of the issued and outstanding PharmAthene common stock as of the record date entitled to vote at the PharmAthene special meeting.

A failure to vote by proxy or in person at the PharmAthene special meeting or a "broker non-vote" will have the effect of a vote "AGAINST" PharmAthene Proposal No. 3. For purposes of the vote on this PharmAthene Proposal No. 3, an abstention will have the same effect as a vote "AGAINST" such proposal. **Each of PharmAthene's Proposals Nos. 1, 2, 3 and 4 are conditioned upon each other. Therefore, the mergers cannot be consummated without the approval of PharmAthene's Proposals Nos. 1, 2, 3 and 4.**

PharmAthene's Board of Directors believes that the Reverse Split contemplated by the Charter Amendment is in the best interests of PharmAthene and its stockholders. If PharmAthene's stockholders do not approve this Proposal No. 3, the mergers may not be effected and PharmAthene would be required to seek other strategic opportunities to deliver stockholder value.

The PharmAthene Board of Directors unanimously recommends that PharmAthene stockholders vote "FOR" PharmAthene's Proposal No. 3 to approve an amendment of PharmAthene's Certificate of Incorporation to effect the Reverse Split.

PharmAthene Proposal No. 4 — Approval of the 2017 Omnibus Incentive Plan

The board of directors of PharmAthene approved the adoption of the 2017 Omnibus Incentive Plan, or as defined in this Proposal No. 4, the 2017 Incentive Plan, on March 29, 2017, subject to approval by PharmAthene's stockholders. PharmAthene's board of directors is requesting that PharmAthene's stockholders approve the 2017 Incentive Plan.

Approval of 2017 Incentive Plan by PharmAthene stockholders is required, among other things, in order to: (i) comply with NYSE rules requiring stockholder approval of equity compensation plans; (ii) allow the grant of incentive stock options to participants in the 2017 Incentive Plan; and (iii) give the compensation committee of the combined company the ability to grant awards intended to qualify as "performance-based compensation," thereby potentially preserving the company's tax deduction under Code Section 162(m).

The discussion that follows is qualified in its entirety by the terms of the 2017 Incentive Plan, a copy of which is attached as Annex H to the proxy statement/prospectus/consent solicitation. Stockholders should refer to the 2017 Incentive Plan for more complete and detailed information about the terms and conditions of the 2017 Incentive Plan.

If this PharmAthene Proposal No. 4 is approved by PharmAthene stockholders, the 2017 Incentive Plan will become effective as of the date of the closing of the mergers, and no further grants will be made under the PharmAthene, Inc. Amended and Restated 2007 Long-Term Incentive Compensation Plan, or the 2007 Plan, under the Altimmune, Inc. 2001 Employee Stock Option Plan, or the 2001 Employee Plan, or the Altimmune, Inc. 2001 Non-Employee Director Stock Option Plan, or the 2001 Non-Employee Plan. In the event that PharmAthene stockholders do not approve this proposal, the 2017 Incentive Plan will not become effective and the 2007 Plan will continue to be effective in accordance with its terms and the combined company may continue to make awards under such plan, subject to the limits thereunder.

Approval of the 2017 Incentive Plan by PharmAthene stockholders will allow the combined company to grant stock options, restricted stock, other stock-based awards and performance-based cash awards at levels determined appropriate by its board of directors or compensation committee following the closing of the mergers. The 2017 Incentive Plan will also allow the combined company to utilize a broad array of equity incentives and performance cash incentives in order to secure and retain the services of its employees, directors and consultants, and to provide long-term incentives that align the interests of its employees, directors and consultants with the interests of its stockholders following the closing of the mergers.

PharmAthene believes approval of the 2017 Incentive Plan will allow the combined company to remain competitive with comparable companies in its industry by giving it the resources to attract and retain talented individuals to continue to achieve its business objectives and build stockholder value. Approval of the 2017 Incentive Plan will also provide the combined company with the flexibility it needs to use equity compensation and other incentive awards to attract, retain and motivate talented employees, directors and independent contractors who are important to the combined company's long-term growth and success.

Best Practices Integrated into the 2017 Incentive Plan

The 2017 Incentive Plan includes provisions that are designed to protect the interests of the stockholders of the combined company and to reflect corporate governance best practices including:

- *No single trigger accelerated vesting upon change in control*. The 2017 Incentive Plan does not provide for automatic vesting of awards upon a change in control.
- *Awards subject to forfeiture/clawback*. Awards granted under the 2017 Incentive Plan will be subject to recoupment in accordance with any clawback policy that the combined company is required to adopt pursuant to the listing standards of any national securities exchange or association on which its securities are listed or as is otherwise required by the Dodd-Frank Wall Street Reform and Consumer Protection Act or other applicable law. In addition, the combined company may impose other clawback, recovery or recoupment provisions in an award agreement, including a reacquisition right in respect of previously acquired shares or other cash or property upon the occurrence of detrimental activity.
- *Repricing is not allowed*. The 2017 Incentive Plan prohibits the repricing of outstanding stock and the cancellation of any outstanding stock options that have an exercise or strike price greater than the then-current fair market value of a share of common stock in exchange for cash or other stock awards under the 2017 Incentive Plan without prior stockholder approval.
- *Individual participant limitations*. The 2017 Incentive Plan limits the number of shares that may be subject to awards of stock options, restricted stock and other stock-based awards granted to employees and consultants in any fiscal year to 8,000,000 shares per type of award, up to a maximum of 8,000,000 shares during any fiscal year to any one employee or consultant, and also limits the aggregate amount of compensation that may be paid to any participant in respect of other stock-based awards denominated in cash and performance-based cash awards in any fiscal year to $5,000,000. In addition, the 2017 Incentive Plan limits the number of shares that may be granted to non-employee directors during any fiscal year to 5,000,000 shares. The foregoing share amounts do not reflect future adjustments that will be made pursuant to the Reverse Split described above. The foregoing share amounts have been appropriately adjusted to reflect the Exchange Ratio between the PharmAthene common stock and Altimmune capital stock determined in accordance with the Merger Agreement and described above.

- *No liberal change in control definition*. The change in control definition in the 2017 Incentive Plan is not a "liberal" definition. A change in control transaction must actually occur in order for the change in control provisions in the 2017 Incentive Plan to be triggered.
- *No discounted stock options*. All stock options granted under the 2017 Incentive Plan must have an exercise price equal to or greater than the fair market value of a share of common stock on the date the stock option is granted.
- *Administration by independent committee*. The 2017 Incentive Plan will be administered by the members of the combined company's compensation committee, all of whom are "non-employee directors" within the meaning of Rule 16b-3 under the Exchange Act and "independent" within the meaning of the listing standards of the NYSE MKT. In addition, all of the members of the combined company's compensation committee, which has been delegated certain authorities with respect to awards that are intended to qualify as "performance-based compensation" under Section 162(m) of the Code, are "outside directors" within the meaning of Section 162(m) of the Code.
- *Material amendments require stockholder approval*. Consistent with the rules and regulations of the NYSE MKT, the 2017 Incentive Plan requires stockholder approval of any material revisions to the 2017 Incentive Plan. In addition, certain other amendments to the 2017 Incentive Plan require stockholder approval.

Approval of Section 162(m) Performance Goals

Approval of the 2017 Incentive Plan will constitute approval of the material terms of the performance goals under the 2017 Incentive Plan. Approval of the material terms of the performance goals under the 2017 Incentive Plan is intended to enable the combined company to grant awards under the 2017 Incentive Plan that are intended to satisfy the performance-based compensation requirements under Section 162(m) of the Code. Section 162(m) of the Code generally limits the federal income tax deduction for compensation paid to any person who serves as chief executive officer or who is one of the three other most highly compensated executive officers, other than the chief financial officer, of a publicly held corporation to $1.0 million per year, with an exception for qualified performance-based compensation.

Under Section 162(m) of the Code, for compensation to qualify as "performance-based compensation," among other things, the following terms must be disclosed to and approved by the stockholders before the compensation is paid: (i) a description of the employees eligible to receive such awards; (ii) a per-person limit on the number of shares subject to stock options and other stock-based awards containing performance criteria and the amount of cash subject to performance-based cash awards that may be granted to any employee under the plan in any year; and (iii) a description of the business criteria upon which the performance goals for performance-based awards may be granted (or become vested or exercisable). Accordingly, PharmAthene is requesting that stockholders approve the 2017 Incentive Plan, which includes terms and conditions regarding eligibility for awards, annual per-person limits on awards and the business criteria for performance-based awards granted under the 2017 Incentive Plan (as described in the summary below).

Description of the 2017 Omnibus Incentive Plan

The material features of the 2017 Incentive Plan are described below. The following description of the 2017 Incentive Plan is a summary only and is qualified in its entirety by reference to the complete text of the 2017 Incentive Plan. Stockholders are urged to read the actual text of the 2017 Incentive Plan in its entirety.

Purpose of the 2017 Incentive Plan. The purpose of the 2017 Incentive Plan is to: (i) attract, retain and reward employees, consultants and non-employee directors; (ii) strengthen the mutuality of interests between such individuals and the combined company's stockholders; and (iii) enhance the profitability and value of the combined company for the benefit of its stockholders by enabling the combined company to offer incentive awards to employees, consultants and non-employee directors.

Administration of the Plan. The board of directors has appointed the compensation committee to administer the 2017 Incentive Plan. The compensation committee is authorized to grant awards to eligible employees and consultants. The full board of directors will administer the 2017 Incentive Plan for purposes of

granting awards to non-employee directors. To the extent required, all members of the compensation committee are "non-employee directors" within the meaning of Rule 16b-3 under the Exchange Act, "outside directors" within the meaning of Section 162(m) of the Code, and "independent directors" under applicable NYSE MKT rules.

Number of Authorized Shares and Award Limits. Share amounts referenced below have been appropriately adjusted to reflect the Exchange Ratio between PharmAthene common stock and Altimmune capital stock determined in accordance with the Merger Agreement and described above, but do not reflect any Reverse Split adjustments. The aggregate number of the combined company's shares of common stock that may be issued or used for reference purposes under the 2017 Incentive Plan may not exceed 15,000,000 shares (subject to adjustment pursuant to the terms of the 2017 Incentive Plan as described below). Beginning on January 1, 2018 and ending on and including January 1, 2027, the number of shares reserved for issuance under the 2017 Incentive Plan will be increased by a number of shares of common stock in an amount equal to the least of: (i) 10,000,000 shares of common stock, (ii) four percent (4%) of the total number of shares of common stock outstanding on a fully diluted basis as of December 31 of the immediately preceding calendar year, and (iii) such number of shares of common stock, if any, determined by the combined company's board of directors. Shares of common stock that are subject to awards will be counted against the overall limit as one share for every share granted. If any award is cancelled, expires or terminates unexercised for any reason, the shares covered by such award will again be available for the grant of awards under the 2017 Incentive Plan, except that any shares that are not issued as the result of a net settlement or that are used to pay any exercise price or tax withholding obligation will not be available for the grant of awards. Shares of common stock that are repurchased on the open market with the proceeds of an option exercise price also will not be available for the grant of awards.

The maximum number of shares of common stock that may be subject to any award of stock options, any restricted stock or other stock-based award denominated in shares that may be granted under the 2017 Incentive Plan during any fiscal year to each employee or consultant is 8,000,000 shares per type of award, provided that the maximum number of the combined company's shares of common stock for all types of awards during any fiscal year does not exceed 8,000,000 shares per each employee or consultant. In addition, the maximum value at grant of any other stock-based award denominated in cash and any performance-based cash award that may be granted during any fiscal year to an employee or consultant is $5,000,000. Also, the 2017 Incentive Plan limits the number of shares that may be granted to non-employee directors during any fiscal year to 5,000,000 shares.

Eligibility and Participation. All current and prospective eligible employees and consultants of the combined company and its affiliates, and all of the combined company's non-employee directors, are eligible to be granted non-qualified stock options, restricted stock awards, performance-based cash awards and other stock-based awards under the 2017 Incentive Plan. However, only employees of the combined company and its subsidiaries are eligible to be granted incentive stock options, or ISOs, under the 2017 Incentive Plan. Eligibility for awards under the 2017 Incentive Plan is determined by the compensation committee in its sole discretion.

Types of Awards

Stock Options. The 2017 Incentive Plan authorizes the compensation committee to grant ISOs to eligible employees and non-qualified stock options to purchase shares to eligible employees, consultants and non-employee directors, who are referred to as participants. The compensation committee will determine the number of shares of common stock subject to each option, the term of each option, the exercise price (which may not be less than the fair market value of the shares of the combined company's common stock at the time of grant or, in the case of ISOs granted to ten-percent stockholders, 110% of the fair market value), the vesting schedule and the other terms and conditions of each option. Options will be exercisable at such times and subject to such terms and conditions as are determined by the compensation committee at grant. The maximum term of options under the 2017 Incentive Plan is ten years (or five years in the case of ISOs granted to 10% stockholders). Upon the exercise of an option, the participant must make payment of the full exercise price (i) in cash or by check, bank draft or money order, (ii) solely to the extent permitted by law, through the delivery of irrevocable instructions to a broker (reasonably acceptable to the combined company) to promptly deliver an amount equal to the aggregate exercise price, and/or (iii) on such other terms and

conditions as may be acceptable to the compensation committee (including, without limitation, the relinquishment of options or by payment in full or in part in the form of shares of the combined company's common stock owned by the participant). Unless otherwise determined by the compensation committee, the 2017 Incentive Plan provides that options vested and exercisable as of the date of a participant's termination of employment, consultancy or directorship (as applicable) will remain exercisable for the following periods following the date of termination: (i) if such termination is due to the participant's death or "disability" (as defined in the 2017 Incentive Plan), one year; (ii) if such termination is by the combined company without "cause" (as defined in the 2017 Incentive Plan), 90 days; and (iii) if such termination is voluntary, 30 days. Upon an employment termination by the combined company for cause or a voluntary resignation following an event that would be grounds for termination for cause, the options will terminate and expire on the date of employment termination. Unless otherwise determined by the compensation committee, upon any employment termination, unvested options will terminate and expire on the date of employment termination.

Restricted Stock. The 2017 Incentive Plan authorizes the compensation committee to grant restricted stock awards to eligible participants. Recipients of restricted stock awards enter into an agreement subjecting the restricted stock awards to transfer and other restrictions and providing the criteria or dates on which such awards vest and such restrictions lapse. The restrictions on restricted stock awards may lapse and the awards may vest over time, based on performance criteria or other factors (including, without limitation, performance goals that are intended to comply with the performance-based compensation exception under Section 162(m) of the Code, as discussed below), as determined by the compensation committee at grant. Except as otherwise determined by the compensation committee, a holder of a restricted stock award has all of the attendant rights of a stockholder, including the right to vote. However, such holder does not have the right to tender shares of the restricted stock and any dividends or other distributions payable on the restricted stock will not be paid unless and until the underlying shares of restricted stock vest and are no longer subject to restrictions.

Other Stock-Based Awards. The 2017 Incentive Plan authorizes the compensation committee to grant awards of shares of common stock and other awards to eligible participants that are valued in whole or in part by reference to, or are payable in or otherwise based on, shares of the combined company's common stock, including, but not limited to: (i) shares of common stock awarded purely as a bonus in lieu of cash and not subject to any restrictions or conditions; (ii) shares of common stock in payment of the amounts due under an incentive or performance plan sponsored or maintained by the combined company or an affiliate; (iii) stock appreciation rights; (iv) stock equivalent units; (v) restricted stock units; (vi) performance awards entitling participants to receive a number of shares of the combined company's common stock (or cash in an equivalent value) or a fixed dollar amount, payable in cash, stock or a combination of both, with respect to a designated performance period; or (vii) awards valued by reference to book value of the combined company's shares of common stock.

Certain Performance-Based Awards. The 2017 Incentive Plan authorizes the compensation committee to grant performance-based stock-based and cash awards. Performance-based awards granted under the 2017 Incentive Plan that are intended to satisfy the performance-based compensation exception under Section 162(m) of the Code will vest based on attainment of specified performance goals established by the compensation committee. These performance goals will be based on the attainment of a certain target level of, or a specified increase in (or decrease where noted), criteria selected by the compensation committee. Such performance goals may be based upon the attainment of specified levels of company, subsidiary, division or other operational unit performance under one or more of the measures described above relative to the performance of other companies. The compensation committee may designate additional business criteria on which the performance goals may be based or adjust, modify or amend those criteria, to the extent permitted by Section 162(m) of the Code. Such performance goals may incorporate provisions for disregarding (or adjusting for) changes in accounting methods, corporate transactions (including dispositions and acquisitions) and other special, unusual or non-recurring items, events or circumstances affecting the combined company, subsidiary, division or other operational unit performance.

The performance criteria under the 2017 Incentive Plan include: (i) enterprise value or value creation targets; (ii) income or net income; operating income; net operating income or net operating income after tax; operating profit or net operating profit; (iii) cash flow including, but not limited to, from operations or free cash flow; (iv) specified objectives with regard to limiting the level of increase in all or a portion of bank debt

or other long-term or short-term public or private debt or other similar financial obligations, or other capital structure improvements, which may be calculated net of cash balances or other offsets and adjustments as may be established by the compensation committee; (v) net sales, revenues, net income or earnings before income tax or other exclusions; (vi) operating margin; return on operating revenue or return on operating profit; (vii) return measures (after tax or pre-tax), including return on capital employed, return on invested capital; return on equity, return on assets, return on net assets; (viii) market capitalization, earnings per share, fair market value of the shares of the combined company's common stock, franchise value (net of debt), economic value added; (ix) total stockholder return or growth in total stockholder return (with or without dividend reinvestment); (x) financing and other capital raising transactions; (xi) proprietary investment results; (xii) estimated market share; (xiii) expansion of sales in additional geographies or markets; (xiv) expense management/control or reduction (including without limitation, compensation and benefits expense); (xv) customer satisfaction; (xvi) technological improvements/implementation, new product innovation; (xvii) collections and recoveries; (xviii) property/asset purchases; (xix) litigation and regulatory resolution/implementation goals; (xx) leases, contracts or financings (including renewals, overhead, savings, G&A and other expense control goals); (xxi) risk management/implementation; (xxii) development and implementation of strategic plans or organizational restructuring goals; (xxiii) development and implementation of risk and crisis management programs; compliance requirements and compliance relief; productivity goals; workforce management and succession planning goals; (xxiv) employee satisfaction or staff development; (xxv) formations of joint ventures or partnerships or the completion of other similar transactions intended to enhance revenue or profitability or to enhance the customer base; (xvi) licensing or partnership arrangements; (xvii) progress of partnered programs and partner satisfaction; (xviii) progress of internal research or development programs; (xxix) submission of a new drug application ("NDA") or the approval of the NDA by the U.S. Food and Drug Administration ("FDA"); (xxx) submission of an investigational new drug application ("IND") or the approval of the IND by the FDA; (xxxi) submission of a therapeutic biologics license application ("BLA") or the approval of the BLA by the FDA; (xxxii) submission to, or approval by, a foreign regulatory body of an applicable filing or a product; (xxxiii) strategic partnerships or transactions (including in-licensing and out-licensing of intellectual property); (xxxiv) the achievement of a launch of a new drug; (xxxv) the initiation or completion of a clinical trial phase; (xxxvi) implementation or completion of critical projects; (xxxvii) achievement of specified milestones in the discovery and development of one or more of the combined company's products; (xxxviii) achievement of specified milestones in the commercialization of one or more of the combined company's products; (xxxix) achievement of specified milestones in the manufacturing of one or more of the combined company's products; (xl) the achievement of specified regulatory milestones relating to one or more of the combined company's products; or (xli) completion of a merger, acquisition or any transaction that results in the sale of all or substantially all of the stock or assets.

Effect of Detrimental Activity. Unless otherwise determined by the compensation committee, the 2017 Incentive Plan provides that, in the event a participant engages in "detrimental activity" (as defined in the 2017 Incentive Plan), all unexercised options held by the participant will terminate and expire and all unvested restricted stock and other stock-based awards will be immediately forfeited. As a condition to the exercise of an option, a participant is required to certify that he or she is in compliance with the terms and conditions of the 2017 Incentive Plan and that he or she has not engaged in, and does not intend to engage in, any detrimental activity. If the participant engages in a detrimental activity within one year following the exercise of an option, or if earlier, within one year following the date of the participant's employment termination, the combined company is entitled to recover from the participant, at any time within one year after such date, any gain realized from the exercise of such option. If the participant engages in a detrimental activity within one year following the vesting date of a restricted stock award or other stock-based award, the combined company is entitled to recover from the participant, at any time within one year after such detrimental activity, the fair market value on the vesting date of any restricted stock award, and any gain realized from the vesting of any other stock-based award, that vested during such period.

Unless otherwise determined by the compensation committee, the foregoing provisions related to detrimental activity will cease to apply upon a change in control (as defined in the 2017 Incentive Plan and described below).

Effect of Certain Transactions; Change in Control. In the event of a change in control, except as otherwise provided by the compensation committee in an award agreement, unvested awards will not vest. Instead, the compensation committee may, in its sole discretion provide for outstanding awards to be treated in accordance with one or more of the following methods: (i) awards (whether or not vested) may be continued, assumed or substituted for; (ii) awards may be purchased for an amount of cash equal to the change in control price per share; and/or (iii) stock options or other stock-based appreciation awards may be cancelled if the change in control price is less than the applicable exercise price. However, the compensation committee may in its sole discretion provide for the acceleration of vesting and lapse of restrictions of an award at any time.

For the purposes of the foregoing, a "change in control" generally means the occurrence of one of the following events:

- The acquisition (including through purchase, reorganization, merger or consolidation) by a person or entity of 50% or more of the voting power of the securities entitled to vote to elect the combined company's board of directors;
- An election of individuals to the combined company's board of directors that causes a change in two-thirds of the board of directors, unless the individuals elected are approved by a vote of at least two-thirds of the directors then in office who either were directors as of the effective date of the 2017 Incentive Plan or whose election or nomination was previously so approved; or
- The sale or other disposition of all or substantially all of the combined company's assets.

A bona fide transaction or series of transactions resulting in the issuance of voting securities of the combined company or any affiliate or any rights to acquire or be converted into voting securities of the combined company or any affiliate, which is entered into with the primary purpose of providing equity financing to the combined company or any of its affiliates will not be treated as a change in control.

In addition, upon the occurrence of an acquisition event (as defined below), the compensation committee may terminate all outstanding and unexercised options (or any other stock-based awards that are subject to exercise by the holder thereof), which are referred to as exercisable awards, effective as of the date of the acquisition event, by delivering a termination notice to each participant at least 20 days prior to the date of the acquisition event. During the period after which notice is provided, each participant may exercise all of his or her then-outstanding and vested exercisable awards, subject to the occurrence of the acquisition event. Any exercisable award that has an exercise price that is equal to or greater than the fair market value of the combined company's common stock on the date of the acquisition event may be canceled by the compensation committee without consideration. Under the 2017 Incentive Plan, an "acquisition event" means (i) a merger or consolidation in which the combined company is not the surviving entity, (ii) any transaction that results in the acquisition of all or substantially all of the combined company's outstanding common stock by a single person or group of persons, or (iii) the sale or transfer of all or substantially all of the combined company's assets.

Adjustments. In the event of a stock split, reverse stock split, dividend, recapitalization, merger, consolidation, spin off, reorganization, sale or transfer of all or part of the combined company's assets or business, or other certain corporate transactions having a similar effect to the foregoing, the board of directors will make such adjustments to the aggregate number of shares may be issued, the number of shares or other property subject to an award, the purchase or exercise price of awards, or the individual participant limits discussed above as are determined to be necessary or advisable to prevent substantial dilution or enlargement of the rights of participants under the 2017 Incentive Plan.

Non-Transferability of Awards. Except as the compensation committee may permit, at the time of grant or thereafter, awards granted under the 2017 Incentive Plan are generally not transferable by a participant other than by will or the laws of descent and distribution. Shares of the combined company's common stock acquired by a permissible transferee will continue to be subject to the terms of the 2017 Incentive Plan and the applicable award agreement.

Term. Awards under the 2017 Incentive Plan may not be made after the tenth anniversary of the effective date, but awards granted prior to such date may extend beyond that date. The combined company may seek stockholder re-approval of the performance goals in the 2017 Incentive Plan and, to the extent that

such stockholder approval is obtained on or after the first stockholders' meeting in the fifth year following the year of the last stockholder approval of the performance goals in the 2017 Incentive Plan, awards under the 2017 Incentive Plan may be made based on such performance goals in order to qualify for the "performance-based compensation" exception under Section 162(m) of the Code.

Amendment and Termination. Subject to the rules referred to in the balance of this paragraph, the combined company's board of directors may at any time amend, in whole or in part, any or all of the provisions of the 2017 Incentive Plan, or suspend or terminate it entirely, retroactively or otherwise. Except as required to comply with applicable law, no such amendment may reduce the rights of a participant with respect to awards previously granted without the consent of such participant. In addition, without the approval of stockholders, no amendment may be made that would: (i) increase the aggregate number of shares of the combined company's common stock that may be issued under the 2017 Incentive Plan; (ii) increase the maximum individual participant share limitations for a fiscal year or year of a performance period; (iii) change the classification of individuals eligible to receive awards under the 2017 Incentive Plan; (iv) extend the maximum term of options; (v) alter the performance criteria; (vi) amend the terms of any outstanding stock option or other stock appreciation award to reduce the exercise price thereof (i.e., reprice); (vii) cancel any outstanding "in-the-money" stock option or other stock appreciation award in exchange for cash, other awards or stock option or other stock appreciation award with a lower exercise price; (viii) require stockholder approval in order for the 2017 Incentive Plan to continue to comply with Section 162(m) of the Code or Section 422 of the Code; or (ix) require stockholder approval under the rules of any exchange or system on which the combined company's securities are listed or traded.

The combined company intends to file a registration statement on Form S-8 under the Securities Act to register the full number of shares of common stock that will be available for issuance under the 2017 Incentive Plan, as described in the section titled "— Number of Authorized Shares and Award Limits" above.

Federal Income Tax Implications of the 2017 Incentive Plan. The federal income tax consequences arising with respect to awards granted under the 2017 Incentive Plan will depend on the type of award. From the recipients' standpoint, as a general rule, ordinary income will be recognized at the time of payment of cash, or delivery of actual shares. Future appreciation on shares held beyond the ordinary income recognition event will be taxable at capital gains rates when the shares are sold. The combined company, as a general rule, will be entitled to a tax deduction that corresponds in time and amount to the ordinary income recognized by the recipient, and the combined company will not be entitled to any tax deduction in respect of capital gain income recognized by the recipient. Exceptions to these general rules may arise under the following circumstances: (i) if shares, when delivered, are subject to a substantial risk of forfeiture by reason of failure to satisfy any employment or performance-related condition, ordinary income taxation and the combined company's tax deduction will be delayed until the risk of forfeiture lapses (unless the recipient makes a special election to ignore the risk of forfeiture); (ii) if an employee is granted an ISO, no ordinary income will be recognized, and the combined company will not be entitled to any tax deduction, if shares acquired upon exercise of the ISO are held longer than the later of one year from the date of exercise and two years from the date of grant; (iii) the combined company may not be entitled to a tax deduction for compensation attributable to awards granted to the combined company's named executive officers (other than the chief financial officer), if and to the extent such compensation does not qualify as "performance-based" compensation under Section 162(m) of the Code, and such compensation, along with any other non-performance-based compensation paid in the same calendar year, exceeds $1 million; and (iv) an award may be taxable at 20% above ordinary income tax rates at the time it becomes vested, even if that is prior to the delivery of the cash or stock in settlement of the award, if the award constitutes "deferred compensation" under Section 409A of the Code, and the requirements of Section 409A of the Code are not satisfied.

The foregoing provides only a general description of the application of federal income tax laws to certain awards under the 2017 Incentive Plan, and is not intended as tax guidance to participants in the 2017 Incentive Plan, as the tax consequences may vary with the types of awards made, the identity of the recipients and the method of payment or settlement. This summary does not address the effects of other federal taxes (including possible "golden parachute" excise taxes) or taxes imposed under state, local, or non-U.S. tax laws.

New Plan Benefits

Pursuant to the employment agreement between Altimmune and William J. Enright, the combined company anticipates granting Mr. Enright an option to purchase a number of shares of common stock of the combined company equal to the number of shares issuable to a holder of 133,395 shares of Altimmune Common Stock prior to the merger. The option will have an exercise price equal to the closing price of the combined company's common stock on the NYSE MKT on the date the mergers become effective.

Except as set forth above, for all other participants under the 2017 Incentive Plan, the benefits or amounts that will be received by or allocated to each named executive officer, all current executive officers as a group, all directors who are not executive officers as a group, and all employees who are not executive officers as a group under the 2017 Incentive Plan are not presently determinable.

Required Vote

Approval of the 2017 Incentive Plan requires the affirmative "FOR" vote of the holders of a majority of the shares of PharmAthene's common stock present in person or represented by proxy at the PharmAthene special meeting and entitled to vote thereon.

Recommendation of PharmAthene Board of Directors

PharmAthene strongly believes that the approval of the 2017 Incentive Plan is essential to the success of the combined company. Awards under the 2017 Incentive Plan are vital to attract, motivate and retain outstanding and highly skilled individuals. For the reasons stated above, PharmAthene's stockholders are being asked to approve the 2017 Incentive Plan. **Each of PharmAthene Proposals Nos. 1, 2, 3, and 4 are conditioned upon each other. Therefore, the mergers cannot be consummated without the approval of PharmAthene Proposals Nos. 1, 2, 3, and 4.**

The PharmAthene Board of Directors unanimously recommends that PharmAthene stockholders vote "FOR" PharmAthene's Proposal No. 4 to approve the PharmAthene, Inc. 2017 Omnibus Incentive Plan.

PharmAthene Proposal No. 5 — Approval of Possible Adjournment of the PharmAthene Special Meeting

PharmAthene is asking its stockholders to consider and vote upon a proposal to approve one or more adjournments of the PharmAthene special meeting, if necessary or advisable.

If the number of shares of PharmAthene common stock present in person or represented by proxy at the PharmAthene special meeting voting in favor of each of PharmAthene Proposal Nos. 1 through 4 is insufficient to approve such proposal at the time of the PharmAthene special meeting, then PharmAthene may move to adjourn the PharmAthene special meeting in order to enable the PharmAthene Board of Directors to solicit additional proxies in respect of the proposal. In that event, PharmAthene stockholders may be asked to vote only upon the adjournment proposal, PharmAthene Proposal No. 5, and not on any other proposal.

In this proposal, PharmAthene is asking its stockholders to authorize the holder of any proxy solicited by the PharmAthene Board of Directors to grant discretionary authority to the proxy or attorney-in-fact to adjourn the PharmAthene special meeting one or more times for the purpose of soliciting additional proxies. If PharmAthene stockholders approve this PharmAthene Proposal No. 5, PharmAthene could adjourn the PharmAthene special meeting and any adjourned session of the PharmAthene special meeting and use the additional time to solicit additional proxies, including from PharmAthene stockholders that previously have returned properly executed proxies or authorized a proxy by using the Internet or telephone. Among other things, approval of PharmAthene Proposal No. 5 could mean that, even if PharmAthene has received proxies representing more votes against the approval of each of PharmAthene Proposal Nos. 1 through 4 than in favor of such proposals PharmAthene could adjourn the PharmAthene special meeting without a vote on such proposal and seek to obtain sufficient votes in favor of such proposal to obtain approval of that proposal.

PharmAthene currently does not intend to propose adjournment at the PharmAthene special meeting if there are sufficient votes to approve PharmAthene Proposal Nos. 1 through 4.

Vote Required; Recommendation of the PharmAthene Board of Directors

The affirmative vote of the holders of a majority of the shares of PharmAthene common stock entitled to vote on the proposal and present in person or represented by proxy, is required for approval of PharmAthene Proposal No. 5.

A failure to vote by proxy or in person at the PharmAthene special meeting or a "broker non-vote" will have no effect on the outcome of PharmAthene Proposal No. 5. For purposes of the vote on this PharmAthene Proposal No. 5, an abstention will have the same effect as a vote "AGAINST" such proposal.

The PharmAthene Board of Directors unanimously recommends that PharmAthene stockholders vote "FOR" PharmAthene Proposal No. 5 to adjourn the PharmAthene special meeting, if necessary or advisable, to solicit additional proxies if there are not sufficient votes in favor of PharmAthene Proposal Nos. 1 through 4.

MATTERS TO BE PRESENTED TO ALTIMMUNE'S STOCKHOLDERS

Altimmune Stockholder Action by Written Consent

Altimmune's Board of Directors is providing this consent solicitation and the accompanying consent solicitation materials to its stockholders and asking its stockholders to execute and deliver the written consent furnished with this proxy statement/prospectus/consent solicitation to approve the mergers and adopt and approve the Merger Agreement and the transactions contemplated thereby, including the Certificate of Merger to be filed with the Secretary of State of the State of Delaware referenced in the Merger Agreement.

The Merger Agreement provides that Altimmune will be merged with and into Merger Sub Corp, a wholly-owned subsidiary of PharmAthene, with Altimmune as the surviving entity, and immediately thereafter, Altimmune will be merged with and into Merger Sub LLC, a wholly-owned subsidiary of PharmAthene, with Merger Sub LLC as the surviving entity in such merger. Following the consummation of the mergers, PharmAthene will change its name to “Altimmune, Inc.” In connection with the mergers, shares of Altimmune common and preferred stock issued and outstanding immediately prior to the Effective Time of the mergers will be converted into the right to receive shares of PharmAthene common stock, at the Exchange Ratio described in the Merger Agreement. For a summary of and detailed information regarding the merger consideration, see “The Merger Agreement — Merger Consideration” beginning on page 139 of this proxy statement/prospectus/consent solicitation.

Shares Entitled to Consent and Consent Required

Only Altimmune stockholders of record at the close of business on March 22, 2017 will be notified of and be entitled to execute and deliver a written consent. On the record date, the outstanding securities of Altimmune eligible to consent with respect to the proposals consisted of 9,195,906 shares of Altimmune's Class A Common Stock and 800,000 shares of its Series B Convertible Preferred Stock.

Under Altimmune's Amended and Restated Certificate of Incorporation, as amended, each holder of Altimmune Class A Common Stock is entitled to one vote for each share of common stock held of record and each holder of Altimmune Series B Convertible Preferred Stock is entitled to one vote for each share of common stock into which such share of preferred stock held of record is convertible. Each share of Altimmune Series B Convertible Preferred Stock is currently convertible into one share of Altimmune Class A Common Stock.

Approval is required from the holders of at least (i) 65% of the outstanding shares of Altimmune common stock and preferred stock, voting together as a single class on an as-converted-to-common stock basis, and (ii) the majority of the outstanding Altimmune common stock for the mergers, the Merger Agreement and the transactions contemplated thereby.

As of the record date, the directors and executive officers of Altimmune held, in the aggregate, approximately 68% of the outstanding shares of Altimmune capital stock on an as-converted-to-common stock basis entitled to execute and deliver the written consent. On January 19, 2017, the officers, directors and major stockholders of Altimmune who owned approximately 6.1 million shares, or approximately 68% of the outstanding shares of Altimmune common stock on as-converted-to-common stock basis, solely in their capacity as Altimmune stockholders, entered into the Altimmune Voting Agreement with PharmAthene in connection with the Merger Agreement.

Submission of Consents

You may consent to the proposal with respect to your shares by completing and signing the written consent furnished with this consent solicitation and solicitation materials and returning it to Altimmune on or before April 10, 2017, the date Altimmune's Board of Directors has set as the targeted final date for receipt of written consents. Altimmune reserves the right to extend the final date for receipt of written consents beyond April 10, 2017. Any such extension may be made without notice to stockholders.

If you hold shares of Altimmune common stock or preferred stock as of the record date and you wish to give your written consent, you must complete the enclosed written consent, date and sign it, and promptly return it to Altimmune. Once you have completed, dated and signed the written consent, you may deliver it to Altimmune by faxing it to (855) 557-1369, by emailing a .pdf copy of your written consent to consents@altimmune.com, or by mailing your written consent to 19 Firstfield Road, Gaithersburg, Maryland 20878.

Executing Consents; Revocation of Consents

You may execute a written consent to approve the proposal to approve the mergers, approve and adopt the Merger Agreement and related transactions (which is equivalent to a vote for the proposal) or disapprove the proposal (which is equivalent to a vote against the proposal). If you do not return your written consent, it will have the same effect as a vote against the proposal. If you are a record holder and you return a signed written consent without indicating your decision on the proposal, you will have given your consent to approve the mergers and adopt and approve the Merger Agreement and the transactions contemplated thereby.

Your consent to the proposal may be changed or revoked at any time before the consents of a sufficient number of shares to approve and adopt such proposal have been received by Altimmune and delivered to Altimmune's corporate secretary. If you wish to change or revoke a previously delivered consent before that time, you may do so by delivering a notice of revocation to 19 Firstfield Road, Gaithersburg, Maryland 20878, in the method specified above or by delivering a new written consent bearing a later date.

Solicitation of Consents; Expense

The expense of preparing, printing and mailing these consent solicitation materials is being borne by Altimmune. Altimmune's officers and employees may solicit consents by telephone and personally, in addition to solicitation by mail. These persons will receive their regular salaries but no special compensation for soliciting consents.

Recommendation of the Altimmune Board

The Altimmune Board of Directors recommends that Altimmune stockholders approve the mergers and adopt and approve the Merger Agreement and the transactions contemplated thereby by executing and delivering the written consent furnished with this consent solicitation and accompanying solicitation materials. Altimmune's Board of Directors believes the merger consideration to Altimmune's stockholders is fair, advisable and in the best interests of Altimmune and its stockholders. Please see the section of this proxy statement/prospectus/consent solicitation entitled “The Merger — Altimmune Reasons for the Merger.”

Voting and Other Agreements

Following PharmAthene's and Altimmune's entering into the Merger Agreement, on January 19, 2017, certain stockholders, directors and officers of Altimmune, holding, in the aggregate, approximately 68% of the outstanding shares of Altimmune capital stock, entered into the Altimmune Voting Agreement whereby they have agreed to vote their Altimmune shares in favor of the mergers, and on January 18, 2017, lock-up agreements pursuant to which they have agreed to refrain from selling any of the PharmAthene common stock they receive in the mergers for 60 days following the Effective Time of the mergers. For a more detailed discussion of these stockholder agreements see the sections of this proxy statement/prospectus/consent solicitation entitled “Voting and Other Agreements — Altimmune Voting Agreement” and “Voting and Other Agreements — PharmAthene and Altimmune Post-Closing Lock-up Agreements.”

THE PARTIES TO THE MERGERS

Altimmune, Inc.
19 Firstfield Road
Gaithersburg, MD 20878
(240) 654-1450

Altimmune is a clinical stage immunotherapeutics biotechnology company located in Montgomery County, MD with additional operating sites in London, UK and Strasbourg, France. By leveraging the complementary attributes of its two innovative vaccine delivery platforms, RespirVec™ and Densigen™, Altimmune is able to design and develop immunotherapeutic products tailored to address a wide range of disease indications including acute respiratory infections, chronic viral infections and cancer, with the potential for fundamental advantages over competing products.

Altimmune is headquartered in Gaithersburg, MD. Altimmune's principal offices are located at 19 Firstfield Road Gaithersburg, MD 20878 and its phone number is (240) 654-1450. Altimmune's principal website is *www.altimmune.com*.

Altimmune is a private company and its stock is not listed on a securities exchange.

For more information about Altimmune, please visit Altimmune's Internet website at *www.altimmune.com*. Altimmune's Internet website address is provided as an inactive textual reference only. The information contained on Altimmune's Internet website is not incorporated into, and does not form a part of, this proxy statement/prospectus/consent solicitation or any other report or document on file with or furnished to the SEC. Additional information about Altimmune is included in this proxy statement/prospectus/consent solicitation. See the section entitled “Altimmune's Business” of this proxy statement/prospectus/consent solicitation.

PharmAthene, Inc.
One Park Place, Suite 450
Annapolis, Maryland
(410) 269-2600

PharmAthene, a Delaware corporation, is a biodefense company engaged in developing a next generation anthrax vaccine. The next generation vaccine is intended to have more rapid time to protection, fewer doses for protection and less stringent requirements for temperature controlled storage and handling than the currently used vaccine.

PharmAthene's executive offices are located at One Park Place, Suite 450, Annapolis, Maryland 21401 and its telephone number is (410) 269-2600. PharmAthene's principal website is *www.pharmathene.com*.

PharmAthene common stock is listed on the NYSE MKT under the symbol “PIP.”

For more information about PharmAthene, please visit PharmAthene's Internet website at *www.pharmathene.com*. PharmAthene's Internet website address is provided as an inactive textual reference only. The information contained on PharmAthene's Internet website is not incorporated into, and does not form a part of, this proxy statement/prospectus/consent solicitation or any other report or document on file with or furnished to the SEC. Additional information about PharmAthene is included in the documents incorporated by reference into this proxy statement/prospectus/consent solicitation. Please the section entitled “Where You Can Find Additional Information” beginning on page 269 of this proxy statement/prospectus/consent solicitation.

Mustang Merger Sub Corp I Inc.
One Park Place, Suite 450
Annapolis, Maryland
(410) 269-2600

Merger Sub Corp, a Delaware corporation and a wholly owned subsidiary of PharmAthene, was formed solely for the purpose of facilitating the mergers, and in particular, Merger 1. Merger Sub Corp has not carried on any activities or operations to date, except for those activities incidental to its formation and undertaken in connection with the transactions contemplated by Merger 1 under the Merger Agreement. By operation of Merger 1, Merger Sub Corp will be merged with and into Altimmune, with Altimmune surviving the merger as a wholly owned subsidiary of PharmAthene.

Mustang Merger Sub II LLC
One Park Place, Suite 450
Annapolis, Maryland
(410) 269-2600

Merger Sub LLC, a Delaware limited liability company and a wholly owned subsidiary of PharmAthene, was formed solely for the purpose of facilitating the mergers, and in particular, Merger 2. Merger Sub LLC has not carried on any activities or operations to date, except for those activities incidental to its formation and undertaken in connection with the transactions contemplated by Merger 2 under the Merger Agreement. By operation of Merger 2, immediately after Merger 1, Altimmune will be merged with and into Merger Sub LLC, with Merger Sub LLC surviving the merger as a wholly owned subsidiary of PharmAthene.

THE MERGERS

This section and the section entitled "The Merger Agreement" describe the material aspects of the mergers, including the Merger Agreement. While PharmAthene and Altimmune believe that this description covers the material terms of the mergers and the Merger Agreement, it may not contain all of the information that is important to you. You should read carefully this entire proxy statement/prospectus/consent solicitation for a more complete understanding of the mergers and the Merger Agreement, including the attached Annexes, and the other documents incorporated by reference herein. Please see the section entitled "Where You Can Find Additional Information" beginning on page 269 of this proxy statement/prospectus/consent solicitation.

General

The Merger Agreement provides that, as of the Effective Time, Merger Sub Corp will be merged with and into Altimmune, with Altimmune surviving such merger, and immediately thereafter Altimmune will be merged with and into Merger Sub LLC, with Merger Sub LLC surviving such merger. Upon consummation of the mergers, Merger Sub Corp and Altimmune will cease to exist, and Merger Sub LLC will continue as a direct wholly owned subsidiary of PharmAthene. Following the consummation of the mergers, PharmAthene will change its name to "Altimmune, Inc."

In addition, to induce PharmAthene, Merger Sub Corp and Merger Sub LLC to enter into the Merger Agreement and to cause the mergers to be consummated, Altimmune entered into the Altimmune Financing Agreement with certain Altimmune stockholders who irrevocably committed to participate in: (i) the Altimmune Private Placement, such that not less than $3.5 million of gross proceeds for Altimmune are received by Altimmune prior to the Effective Time and (ii) the Post-Closing Private Placement, such that not less than $5.0 million of gross proceeds are received by the combined company from such Altimmune stockholders within 135 days of the closing date of the mergers. However, if the combined company completes a public offering of common stock during such 135-day period, then the purchase price of the shares acquired in the Post-Closing Private Placement will be at the same price as the shares sold in such public offering.

At the Effective Time, all outstanding shares of Altimmune common stock and preferred stock will be converted solely into the right to receive a number of shares of PharmAthene common stock, such that the holders of outstanding equity of Altimmune immediately prior to the Effective Time will own 58.2% of the outstanding equity of PharmAthene immediately following the Effective Time and holders of outstanding equity of PharmAthene immediately prior to the Effective Time will own 41.8% of the outstanding equity of PharmAthene immediately following the Effective Time, in each case, on a fully diluted basis.

Background of the Mergers

For many years, PharmAthene's strategic objective was to become a premier global company specializing in the development and commercialization of prophylactic and therapeutic drugs for defense against biological and chemical threats and emerging infectious diseases. The rapidly changing legal and regulatory landscape governing the approval, manufacture and marketing of biopharmaceutical products, as well as challenges resulting from the U.S. government budget process, severely affected the timing of and funding for PharmAthene's products. PharmAthene continually reviews its prospective business strategy and prospects for continued growth in the context of these evolving challenges. In the past, as a result of such reviews, PharmAthene acquired certain other companies and products, to diversify and expand its product offerings and business. In addition, in 2006, PharmAthene entered into a merger agreement with SIGA, following the termination of which, PharmAthene commenced litigation against SIGA.

From 2006 through 2016, PharmAthene engaged in legal proceedings with SIGA that resulted, during 2016, in payment by SIGA to PharmAthene of an aggregate amount of approximately $217 million, as awarded by the Delaware Court of Chancery.

During the first half of 2015, PharmAthene narrowed the scope of its product development programs, reduced its employee headcount and executed other cost reductions. These actions were intended to allow PharmAthene to have sufficient cash to recognize the benefit of the SIGA award and advance its anthrax vaccine programs without the need to raise additional capital.

In addition, PharmAthene terminated development of SparVax® to focus PharmAthene's resources on development of its next generation anthrax vaccine, SparVax-L®. SparVax® was a liquid Recombinant Protective Antigen (“rPA”) anthrax vaccine designed to protect against inhalational anthrax, the most lethal form of *B. anthracis* infection in humans. PharmAthene’s next generation anthrax vaccines, SparVax-L® uses rPA, rPA manufacturing processes and development technologies produced in the SparVax® program to develop a vaccine intended to significantly improve time to protection, dosing schedules, administration convenience and handling requirements compared to SparVax®.

On November 17, 2016, the PharmAthene Board of Directors declared a cash dividend on PharmAthene common stock of $2.91 per share or approximately $200 million in the aggregate, which was paid on February 3, 2017. At the same time, PharmAthene communicated to the marketplace that, after distributing the cash proceeds, it would seek a strategic transaction to maximize the value of its anthrax vaccine programs.

An important area of interest to PharmAthene during the portion of the process that involved evaluating potential acquisition targets was identifying targets having business lines that would maximize the opportunities for the continuing development of PharmAthene's existing products. In particular, PharmAthene's management was seeking to identify companies with expertise in vaccine development, developing biodefense products and companies that did business with BARDA. These types of companies were considered to be a strong fit for PharmAthene due to their ability to maximize the value of the PharmAthene assets and develop products having potential applications to both commercial and government markets. PharmAthene identified several target candidates that met these criteria including Altimmune.

Since Altimmune's inception, its Board of Directors and management team have been regularly evaluating its business and operations, long-term strategic goals and alternatives, and prospects as an independent company. Altimmune's Board of Directors and management team regularly review and assess trends and conditions impacting Altimmune and its industry, changes in the marketplace and applicable law, the competitive environment and Altimmune's future prospects. As part of the ongoing review of Altimmune and its position in its industry, Altimmune's Board of Directors also regularly reviews the strategic alternatives available to Altimmune, including possible strategic combinations, acquisitions and divestitures.

As part of this review, Altimmune began preparing for a potential initial public offering in the second quarter of 2015. Altimmune was prepared to launch its initial public offering in the first quarter of 2016, but determined that the market was not favorable to initial public offerings at that time. Over the course of 2016, Altimmune continued to evaluate all different strategic options for additional financing, including an initial public offering, a reverse merger, a private placement and other strategic transactions. Altimmune evaluated numerous public company entities and participated in several auction processes for merger partners.

From October 2015 to November 2016, members of management and other representatives of PharmAthene contacted various companies identified as either having vaccine businesses that might be compatible with that of PharmAthene, that had contracts with BARDA or otherwise did business with the U.S. government, and PharmAthene engaged in discussions regarding a potential strategic transaction with three of these companies. PharmAthene entered into confidentiality agreements with these companies and conducted due diligence on the target companies. One of the target companies submitted a preliminary proposal to PharmAthene, but the PharmAthene Board of Directors determined, after additional due diligence, that this target company was not a good fit.

Following an informal lunch on October 22, 2015 that included Eric Richman, a PharmAthene Director, Elizabeth Czerepak, Altimmune's Chief Financial Officer and Executive Vice President of Corporate Development and William Enright, Altimmune's President and Chief Executive Officer, an introduction was made to John Gill, PharmAthene’s President and Chief Executive Officer via email. As part of its review of potential strategic alternatives, on October 27, 2015, John Gill spoke with Mr. Enright, and Elizabeth Czerepak, on the telephone to discuss a strategic transaction between PharmAthene and Altimmune.

After an extended period of time and following the resolution of certain matters in the litigation with SIGA, providing for certainty as to the receipt of the final award from SIGA, Mr. Gill and Mr. Enright spoke on the telephone on July 21, 2016 regarding operations at their respective companies.

On August 16, 2016, Mr. Gill and Jeffrey B. Steinberg, PharmAthene's Vice President of Corporate and Business Development, met in Annapolis, Maryland at the headquarters of PharmAthene with Mr. Enright and Ms. Czerepak to discuss a potential transaction between PharmAthene and Altimmune. PharmAthene and Altimmune also entered into a confidentiality agreement on August 16, 2016 to allow mutual technical and legal due diligence. During this meeting, there were detailed discussions relating to the possible benefits of combining the two companies. Virtual data rooms were established to permit both sides to review documents in key areas of their respective businesses.

From August 16, 2016 through August 29, 2016, Mr. Gill and Mr. Steinberg on the one hand, and Mr. Enright and Ms. Czerepak on the other hand, had several telephone conferences to review various scenarios for a transaction between PharmAthene and Altimmune. The parties agreed during the August 16, 2016 meeting to further consider a potential business transaction between the two companies and to speak again within the coming weeks.

On August 30, 2016, John Troyer, Vice President of Product Development of PharmAthene and Scot Roberts, Ph.D., Chief Scientific Officer of Altimmune, spoke on the telephone, during which Dr. Roberts provided a technical and business overview of Altimmune. During this conversation, Dr. Roberts provided an update of the status of Altimmune's influenza program, and the other product candidates in Altimmune's pipeline.

On September 21, 2016, PharmAthene engaged each of Sol Langermann, Ph.D., Senior Vice President and Chief Scientific Officer of Amplimmune, Inc., Arthur Elliott, Ph,D., a consultant and Peter A. Patriarca, M.D., Senior Clinical Consultant at Biologics Consulting Group, Inc., to assist PharmAthene in conducting due diligence. Dr. Langermann has expertise in vaccines, biologics flu and immunology. Dr. Elliott possesses expertise in biologics, vaccine development and BARDA. Dr. Patriarca possesses expertise in vaccines, flu and regulatory affairs.

From September 2016 to November 2016, each of Drs. Langermann, Elliott and Patriarca met with representatives from Altimmune, reviewed documentation, clinical information and reports prepared by representatives of Altimmune, among other things, in conducting due diligence evaluations for the benefit of PharmAthene.

From September 2016 to November 2016, PharmAthene, Altimmune and their respective advisors conducted technical, business, intellectual property, financial and legal due diligence. As part of this mutual diligence process, multiple meetings took place between PharmAthene and Altimmune management and their respective advisors.

On September 22, 2016, PharmAthene received a non-binding letter of intent containing an acquisition proposal from Altimmune.

On September 28, 2016, Mr. Gill, Mr. Steinberg, Mr. Enright and Ms. Czerepak discussed the strategic rationale for a potential business combination between PharmAthene and Altimmune.

Mr. Gill conferred initially with Mitchel Sayare, Ph.D., the Chairman of the PharmAthene Board of Directors, regarding the draft terms in the non-binding letter of intent and thereafter conveyed the contents of the draft terms to the other members of PharmAthene's Board of Directors. On October 6, 2016, following conversations with the members of the Board of Directors of PharmAthene, Mr. Steinberg delivered a revised letter of intent to Mr. Enright.

From October 6, 2016 through November 16, 2016, Mr. Gill, Mr. Steinberg, Mr. Enright and Ms. Czerepak, as well as legal counsel for each of PharmAthene and Altimmune had numerous telephone conversations. Mr. Gill, Mr. Steinberg, Mr. Enright and Ms. Czerepak met in person on November 10, 2016 in Gaithersburg, Maryland to discuss the continuing operation of the businesses, the financial requirements of the combined company and the various terms of the non-binding letter of intent. In addition, numerous revised drafts of the non-binding letter of intent were exchanged between the parties.

On November 16, 2016, during a telephonic meeting of the PharmAthene Board of Directors, PharmAthene's management updated the PharmAthene Board of Directors on its progress in evaluating a potential merger with Altimmune. Management reported to the Board of Directors on the background of the

proposed transaction, including the processes and history of activity leading up to negotiating the terms set forth in the non-binding letter of intent with Altimmune. Management reported on the process of meeting with venture capital funds in Spring 2016, exploring targets conveyed through attorneys and other professional contacts, PharmAthene's efforts to perform diligence on potential targets with similar businesses (such as those with anthrax products and BARDA contracts), and management's focus on exploring opportunities that would value PharmAthene's assets and attributes. Management reported that following preliminary due diligence efforts, PharmAthene engaged in serious discussions with three potential targets, and that after performing further scientific due diligence, management eliminated two of the three prospective targets with which it had been in discussions. Management reported that it believed that Altimmune presented the best value for PharmAthene's stockholders.

Management of PharmAthene presented an overview of the proposed transaction with Altimmune to the PharmAthene Board of Directors, provided an overview of Altimmune's business, including its product candidates and platform technologies; its experienced management team; the proposed timing of its pipeline and clinical milestones; a proposed timeline of the merger; the material terms of the proposed merger (including post-closing ownership, cash position, composition of management and board of directors; the escrow of certain consideration; the absence of a requirement for PharmAthene's to provide indemnification; lock-ups and exclusivity); the perceived positives and negatives of the proposed transaction; the availability of continued investment and support from existing Altimmune stockholders; and the proposed timing of the transaction.

Management of PharmAthene reported further on the findings and conclusions of the three outside consultants engaged by PharmAthene to evaluate the technology platform and program review for Altimmune's product pipeline and reported further that the reviewers saw the proposed transaction as favorable for PharmAthene.

A discussion then ensued regarding the proposed transaction, including with respect to its terms, the importance of the ownership interest to be retained by the stockholders of PharmAthene after the proposed merger, among other things. The PharmAthene Board of Directors, after discussions, authorized PharmAthene's management and financial and legal advisors to continue discussions and negotiations with Altimmune. The PharmAthene Board of Directors approved the non-binding letter of intent and directed management to complete diligence and negotiate a merger agreement.

On November 17, 2016, the PharmAthene and Altimmune signed the non-binding letter of intent.

On November 29, 2016, PharmAthene's outside counsel, Dentons US LLP, sent Altimmune and its outside counsel, Proskauer Rose LLP, a draft merger agreement. The parties engaged in preliminary negotiations concerning the draft merger agreement.

On November 30, 2016, certain of the members of the Boards of Directors of PharmAthene and Altimmune met at a restaurant in New York City for dinner. Conversations during dinner were informal and related to management of the combined business following the proposed merger, among other things.

From November 2016 through January 2017, PharmAthene and Altimmune, together with their respective outside legal counsel and financial advisors, engaged in negotiations regarding the terms of the proposed merger agreement and the ancillary transaction agreements, including the percentage of the combined company to be owned by PharmAthene's and Altimmune's stockholders. Altimmune's indemnification obligations, an additional financing by Altimmune's existing stockholders, non-solicitation provisions, management of the combined company, treatment of stock options and warrants in the mergers, conditions to each party's obligation to consummate the mergers, termination rights and termination fees, and representations, warranties and covenants of the PharmAthene and Altimmune. Final agreement on these and other issues was reached over the course of numerous discussions involving members of Altimmune and PharmAthene management and their legal teams as well as certain of the stockholders of Altimmune. During this period, the Altimmune board of directors had a standing weekly call in which most or all of the directors of Altimmune participated, to receive updates from management team regarding the status of the negotiations and to discuss strategy and next steps.

On December 6, 2016, Mr. Enright and Ms. Czerepak made a presentation to the members of the Board of Directors of PharmAthene, in Philadelphia, Pennsylvania, following which, they attended a dinner with the members of the Board of Directors of PharmAthene. During the dinner, the members of the Board of Directors of PharmAthene asked questions of Mr. Enright relating to the clinical programs for Altimmune, the progress of the studies and the budget for future development, among other things.

PharmAthene's Board of Directors met the next day, on December 7, 2016 in Philadelphia, Pennsylvania, and discussed extensively the status of the proposed transaction with Altimmune and negotiations related to the proposed merger. The discussions included a final technical diligence report, updates on the proposed business and financial terms of the merger, the composition of the board of directors of the combined company, the companies respective financial strength and the desire that the existing stockholders of Altimmune invest at least $8.0 million of additional capital (that had been previously committed) into Altimmune prior to the consummation of the mergers. The PharmAthene Board of Directors provided instructions to its legal advisor with respect to specific negotiating positions.

From January 2, 2017 through January 17, 2017, representatives of Altimmune and PharmAthene reviewed issues relating to the commitment of certain stockholders of Altimmune to invest $8.0 million in Altimmune prior to the Effective Time. As a result of an agreement to allow $3.5 million to be invested prior to the closing date of the mergers and a commitment to invest an additional $5.0 million after the closing date of the mergers, an adjustment to the Exchange Ratio was extensively discussed and, after such discussion, was determined to be agreeable.

On January 6, 2017, the Altimmune board of directors held a special telephonic meeting to consider the proposed merger between PharmAthene and Altimmune. Representatives of Proskauer also responded to questions from members of the Altimmune Board of Directors. Following these discussions and after review and discussion among the members of Altimmune's board of directors, Altimmune's board of directors unanimously determined, among other things, that the draft merger agreement and the proposed mergers contemplated thereby were advisable and in the best interest of Altimmune and its stockholders and resolved to recommend that Altimmune finalize the last details of the draft merger agreement and related agreements. On January 16, 2017, a final version of the merger agreement and a summary of changes to the merger agreement since the January 6, 2017 draft were circulated via email together with a written consent in lieu of special meeting of the Altimmune Board of Directors. Signed written consents were received by all Altimmune board members to approve and adopt the merger agreement and related matters.

On January 18, 2017, the PharmAthene Board of Directors held a special telephonic meeting to consider the proposed merger between PharmAthene and Altimmune and to vote on the proposed merger agreement and related agreements. Representatives of Dentons US LLP reminded the members of PharmAthene's Board of Directors of previous discussions relating to their fiduciary duties in evaluating the mergers and provided a detailed summary of the terms of the proposed merger agreement and related agreements. Representatives of Dentons US LLP also responded to questions from members of the PharmAthene Board of Directors. At the meeting, a representative from Houlihan Lokey reviewed and discussed certain of Houlihan Lokey's financial analyses and thereafter, verbally rendered Houlihan Lokey's opinion to the PharmAthene Board of Directors (which was subsequently confirmed in writing by delivery of Houlihan Lokey's written opinion delivered to the PharmAthene Board of Directors dated January 18, 2017) as to the fairness of the Exchange Ratio provided for in Merger 1 pursuant to the merger agreement to PharmAthene, from a financial point of view. The written opinion of Houlihan Lokey is attached to this joint proxy statement/prospectus/consent solicitation as Annex FA. Following these discussions and after review and discussion among the members of PharmAthene's Board of Directors, PharmAthene's Board of Directors unanimously determined, among other things, that the merger agreement and the proposed mergers contemplated thereby were advisable and in the best interest of PharmAthene and its stockholders and resolved to recommend that PharmAthene stockholders approve and adopt the merger agreement, the issuance of shares of PharmAthene common stock in connection with the proposed mergers and all other actions required or contemplated be taken by the Merger Agreement.

Following the meeting of the Board of Directors of PharmAthene, the parties executed the Merger Agreement, certain PharmAthene stockholders executed a voting agreement with Altimmune and certain PharmAthene stockholders and Altimmune stockholders executed lock-up agreement.

On January 19, 2017, certain Altimmune stockholders executed the Altimmune Voting Agreement. On February 9, 2017, the Altimmune Board of Directors acted by unanimous written consent to approve amendment no. 1 to the Merger Agreement regarding the certificate of incorporation and bylaws of PharmAthene to be in effect after the effective time of the mergers. Altimmune's board of directors unanimously determined, among other things, that amendment no. 1 to the Merger Agreement was advisable and in the best interest of Altimmune and its stockholders and resolved to recommend that Altimmune execute amendment no. 1. On March 10, 2017, the PharmAthene Board of Directors held a special telephonic meeting to consider amendment no. 1 to the Merger Agreement regarding the certificate of incorporation and bylaws of PharmAthene to be in effect after the effective time of the mergers. Representatives of Dentons US LLP responded to questions from members of the PharmAthene Board of Directors. Following these discussions and after review and discussion among the members of PharmAthene's Board of Directors, PharmAthene's Board of Directors unanimously determined, among other things, that amendment no. 1 to the Merger Agreement was advisable and in the best interest of PharmAthene and its stockholders. On March 29, 2017, the parties executed amendment no. 1 to the Merger Agreement.

PharmAthene Reasons for the Mergers

In evaluating the mergers and the Merger Agreement, the PharmAthene Board of Directors consulted with PharmAthene's management and legal, financial and other advisors and, in reaching its decision to approve the mergers and enter into the Merger Agreement, the PharmAthene Board of Directors considered a number of factors, including the following material factors which the PharmAthene Board of Directors viewed as supporting its decision to approve the mergers and the Merger Agreement:

- Historical and current information concerning PharmAthene's business, financial performance, financial condition, operations, management, and competitive position, the prospects of PharmAthene and its products, the nature of the biodefense industry generally, including PharmAthene's short- and long-term strategic objectives and the related risks;
- The belief that the combination of PharmAthene's and Altimmune's businesses would create more value for PharmAthene stockholders in the long-term than PharmAthene could create as an independent, stand-alone company;
- The diversification benefits offered by a combination with Altimmune, including access to additional platforms and programs outside of the biodefense area, including potential applications in the influenza, Hepatitis B and Immuno-oncology markets;
- The viability of strategic alternatives if the proposed merger with Altimmune does not occur, in light of, among other things, PharmAthene's financial prospects, the likelihood of other business combinations or other strategic transactions and access to the capital needed to continue successful operations, and the belief that the proposed transaction with Altimmune would provide PharmAthene's stockholders with a greater potential opportunity to realize a return on their investment than any other alternative reasonably available to PharmAthene and its stockholders;
- One of such alternatives, which was rejected as less attractive, was the consideration of a distribution of all remaining cash to PharmAthene stockholders and the termination of all business operations;
- Historical and current information concerning Altimmune's business, financial performance, financial condition, operations and management and the results of a due diligence investigation of Altimmune conducted by PharmAthene's management and advisors;
- The opportunity for PharmAthene's stockholders to participate in the potential future value of the combined company, including future potential value from Altimmune's technology additional product candidates and other assets;
- Altimmune's experience with products in the anthrax vaccine market and doing business with the US government, and in particular, BARDA, which could favor the perceived added stability of a company with multiple products;

- The potential for Altimmune, its management team and its scientists to continue development of SparVax-L and advance the PharmAthene biodefense program;
- the synergies expected to arise from, among others, two complementary government funded clinical stage next generation anthrax vaccines (SparVax-L and NasoShield);
- Historical and current financial market conditions and stock prices and historical stock prices and trading volumes of PharmAthene common stock;
- The factors affecting the business of PharmAthene described in the section of this proxy statement/prospectus/consent solicitation entitled “Risk Factors — Risks Related to PharmAthene’s business”;
- The Exchange Ratio in the mergers, which is intended to result in PharmAthene security holders holding approximately 41.8% of the outstanding equity of the combined company immediately after completion of the mergers on an as converted and fully diluted basis;
- PharmAthene's ability to payout the special dividend of $2.91 per share on February 3, 2017;
- The terms and conditions of the Merger Agreement, including, without limitation, the following:
  - The provisions in the Merger Agreement that limit the ability of PharmAthene and Altimmune to solicit and respond to offers for alternative transactions, but which allow PharmAthene to respond to a bona fide takeover proposal that the PharmAthene Board of Directors determines is or is reasonably likely to lead to a superior proposal (as defined in the Merger Agreement), subject to certain restrictions imposed by the Merger Agreement, which provisions the PharmAthene Board of Directors believes are reasonable under the circumstances;
  - The requirement to submit the Merger Agreement to Altimmune stockholders to vote on the approval of the mergers and the Merger Agreement, even if the Altimmune Board of Directors subsequently changes its recommendation, notwithstanding the ability of the Altimmune Board of Directors, in accordance with its fiduciary duties, to withdraw, modify or amend its recommendation that Altimmune stockholders vote in favor of the approval of the mergers and the Merger Agreement;
  - The relatively limited nature of the closing conditions;
  - The restrictions on the ability of certain Altimmune stockholders to freely trade some or all of the shares of PharmAthene common stock that they receive in connection with the mergers for a period of up to one year following completion of the merger;
  - The escrow of ten percent of the merger consideration for 12 months following the Effective Time to provide a fund for payment of any losses to PharmAthene or its affiliates arising from breaches by Altimmune of its representations and warranties;
  - The belief that the parties' respective representations, warranties and covenants, and conditions to their respective obligations, are reasonable under the circumstances;
  - The Altimmune Voting Agreement entered into by certain stockholders of Altimmune representing approximately 68% of the outstanding shares of Altimmune capital stock, as of January 19, 2017, pursuant to which such stockholders agreed, solely in their capacity as stockholders, to vote all of their shares of Altimmune capital stock in favor of adoption of the Merger Agreement and against any alternative acquisition proposal;
  - The fact that the Board of Directors of PharmAthene immediately after the mergers will be composed of three PharmAthene nominees and four Altimmune nominees; and
  - The financial analysis reviewed by Houlihan Lokey with PharmAthene's Board of Directors as well as the oral opinion of Houlihan Lokey rendered to PharmAthene's Board of Directors on January 18, 2017 (which was subsequently confirmed in writing by delivery of Houlihan Lokey's written opinion addressed to PharmAthene's Board of Directors dated January 18,

2017), as to as to the fairness to PharmAthene, from a financial point of view, of the Exchange Ratio provided for in Merger 1 pursuant to the Merger Agreement. Please see the section of this proxy statement/prospectus/consent solicitation entitled “The Mergers — Opinion of the Financial Advisor to PharmAthene.”

The PharmAthene Board of Directors weighed the factors described above, which the PharmAthene Board of Directors viewed generally as supporting its decision to approve the mergers and the Merger Agreement, against a number of other factors identified in its deliberations weighing negatively against the mergers, including, without limitation, the following material factors:

- The fact that the shares of PharmAthene common stock to be issued in the mergers will represent approximately 58.2% of the outstanding common stock of the combined company immediately after completion of the mergers, thus causing PharmAthene stockholders as of immediately prior to completion of the mergers to experience immediate and significant dilution in their equity interests and voting power of PharmAthene upon completion of the mergers;
- The $2.0 million termination fee and up to $250,000 (or up to $1.0 million under certain circumstances) in expense reimbursement obligations to Altimmune upon the occurrence of certain termination events and the potential effect of such termination fee and expense reimbursement in deterring other potential acquirers from proposing an alternative transaction that may be more advantageous to PharmAthene stockholders;
- The risks, uncertainties and other challenges facing the Altimmune programs described in more detail in the section of this proxy statement/prospectus/consent solicitation entitled “Risk Factors — Risks Related to Altimmune”;
- The fact that, while PharmAthene expects the mergers to be completed, there can be no assurance that all conditions to the parties' obligations to complete the mergers, including PharmAthene obtaining stockholder approval of the issuance of the PharmAthene common stock in the mergers, will be satisfied within the time frames contemplated by the Merger Agreement, or at all, especially given that certain of the conditions are outside the control of PharmAthene, and, as a result, the mergers may not be completed;
- The amount of time required to complete the mergers, the possibility that the mergers may not be completed and the potential adverse consequences to PharmAthene if the mergers are not completed, including the potential adverse effect on the reputation of PharmAthene, the potential to depress the values offered by others to PharmAthene in a business combination or other alternative transaction and the ability of PharmAthene to obtain financing in the future;
- The possible negative effect of the public announcement of the mergers on PharmAthene's stock price and the possible volatility in PharmAthene common stock that may occur during the pendency of the mergers;
- The possibility that the anticipated benefits of the mergers may not be realized or that they may be lower than expected;
- The substantial costs to be incurred in connection with the mergers, including transaction expenses that would be incurred whether or not the mergers are completed;
- The risks, challenges and costs associated with successfully integrating two companies, with separate operations and locations;
- The restrictions on the conduct of PharmAthene's business prior to completion of the mergers, which require PharmAthene to carry on its business in the ordinary course and consistent with past practice, subject to specific additional restrictions, which may delay or prevent PharmAthene from pursuing business opportunities that otherwise would be in its best interests as an independent, stand-alone company;
- The risk of stockholder lawsuits that may be filed against PharmAthene and/or the PharmAthene Board of Directors in connection with the Merger Agreement; and

- The other risks of the type and nature described under “Risk Factors” and the matters described under “Cautionary Statement Regarding Forward-Looking Statements.”

After consideration of these factors, the PharmAthene Board of Directors determined that these risks could be mitigated or managed by PharmAthene or Altimmune or by the combined company following the mergers, were reasonably acceptable under the circumstances or, in light of the anticipated benefits, that these risks were unlikely to have a materially adverse impact on the mergers or on the combined company following the mergers, and that, overall, these risks were significantly outweighed by the potential benefits of the mergers.

Although this discussion of the information and factors considered by the PharmAthene Board of Directors is believed to include the material factors considered by the PharmAthene Board of Directors, it is not intended to be exhaustive and may not include all of the factors considered by the PharmAthene Board of Directors. In reaching its determination to approve the mergers and adopt and approve the Merger Agreement, the PharmAthene Board of Directors did not find it useful and did not attempt to quantify or assign any relative or specific weights to the various factors that it considered in reaching its determination that the mergers and the Merger Agreement are advisable and fair to and in the best interests of PharmAthene and its stockholders. Rather, the PharmAthene Board of Directors based its position and determination on the totality of the information presented to and factors considered by it. In addition, individual members of the PharmAthene Board of Directors may have given differing weights to different factors.

In considering the determination by the PharmAthene Board of Directors that the mergers and the Merger Agreement are advisable and fair to and in the best interests of PharmAthene and its stockholders, stockholders should be aware that certain PharmAthene directors and officers have arrangements that may cause them to have interests in the transaction that are different from, in addition to, or may conflict with the interests of PharmAthene stockholders generally. Please see the section of this proxy statement/prospectus/consent solicitation entitled “The Mergers — Interests of PharmAthene's Directors and Officers in the Mergers.”

Altimmune Reasons for the Mergers

Altimmune's Board of Directors approved the mergers with PharmAthene based on a number of factors, including the following:

- the potential to provide its current stockholders with greater liquidity by owning stock in a public company;
- the fact that shares of PharmAthene common stock issued to Altimmune stockholders will be registered pursuant to a registration statement on Form S-4 by PharmAthene and will become freely tradable for Altimmune's stockholders who are not affiliates of PharmAthene;
- the expectation that the merger with PharmAthene would be a more time- and cost-effective means to access sufficient capital than other options considered, including an initial public offering or additional rounds of private equity financing;
- the view that the range of options available to the combined company to access private and public equity markets will likely be greater as a public company than continuing as a privately held company;
- the view that the combined company will have an increased ability to attract and retain technical talent compared to a privately held company;
- the view that the combined company's diversified pipeline of product candidates, research capabilities, government contracting expertise, access to opportunities for non-dilutive funding and other synergies creates a superior company when compared to remaining as an independent private company;
- the synergies expected to arise from, among others, two complementary government funded clinical stage next generation anthrax vaccines (SparVax-L and NasoShield);

- the strategic alternatives to the merger available to Altimmune, including remaining an independent private company, attempting an initial public offering, entering into a business combination transaction with an alternative company and additional strategic partnerships;
- the likelihood that the mergers will be consummated on a timely basis, including the likelihood that the mergers will receive all necessary approvals;
- the possibility that the combined entity would be able to take advantage of the potential benefits resulting from the combination of PharmAthene's public company infrastructure and Altimmune's management team;
- the terms and conditions of the Merger Agreement, including the following related factors:
  - the determination that the relative percentage ownership of Altimmune and PharmAthene stockholders is fair and based on the valuations of each company at the time of Altimmune's Board of Directors' approval of the Merger Agreement;
  - the expectation that the mergers will be treated as a reorganization for U.S. federal income tax purposes, with the result that in the mergers, Altimmune's stockholders will generally not recognize taxable gain or loss for U.S. federal income tax purposes;
  - the guaranteed amount of net cash of PharmAthene at the closing of the mergers and available tax credits;
  - the potential expense reimbursements and termination fees payable to Altimmune if PharmAthene terminates the Merger Agreement under certain circumstances, including the potential termination fee of $2.0 million if PharmAthene terminates the Merger Agreement because it enters into a definitive agreement providing for a PharmAthene Superior Proposal, as described in further detail in the section of this proxy statement/prospectus/consent solicitation entitled “The Merger Agreement — No Solicitation”; and
  - the view that the terms of the Merger Agreement, including the parties' representations, warranties and covenants, and the conditions to their respective obligations, are reasonable under the circumstances.

In the course of its deliberations, Altimmune's Board of Directors also considered a variety of risks and other countervailing factors related to entering into the Merger Agreement, including:

- the substantial expenses to be incurred in connection with the mergers;
- the risk that the mergers might not be consummated in a timely manner or at all and the potential adverse effect on the reputation of Altimmune of the public announcement of the mergers or on the delay or failure to complete the mergers;
- the risk that PharmAthene stockholders may fail to approve the mergers;
- the trading price of the combined company's common stock may be subject to significant fluctuations and volatility;
- expenses and obligations to which the combined company would be subject as a result of being a public company that could adversely affect the combined company's operating results and preclude the achievement of some of the benefits anticipated from the mergers;
- the risk to the business of Altimmune, operations and financial results in the event that the mergers are not consummated in a timely manner or at all;
- the fact that the anticipated cash resources of the combined company expected to be available at the closing of the mergers would provide the combined company insufficient capital to execute its near-term business strategy before a subsequent financing may be completed;
- the possibility that the anticipated benefits of the mergers may not be realized or that they may be lower than expected;

- the potential expense reimbursements of up to $1.0 million payable to PharmAthene if the Merger Agreement is terminated under certain circumstances; and
- the other risks of the type and nature described under the section entitled “Risk Factors” of this proxy statement/prospectus/consent solicitation and the matters described under the section entitled “Cautionary Statement Regarding Forward-Looking Statements.”

The foregoing information and factors considered by Altimmune's Board of Directors are not intended to be exhaustive but are believed to include all of the material factors considered by Altimmune's Board of Directors. Altimmune's Board of Directors conducted an overall analysis of the factors described above, including thorough discussions with Altimmune's legal and financial advisors, and considered the factors overall to be favorable to, and to support, its determination to approve the mergers and to recommend that Altimmune's stockholders approve the mergers with PharmAthene and the related transactions.

In considering the determination by the Altimmune Board of Directors that the mergers and the Merger Agreement are advisable and fair to and in the best interests of Altimmune and its stockholders, stockholders should be aware that certain Altimmune directors and officers have arrangements that may cause them to have interests in the transaction that are different from, in addition to, or may conflict with the interests of Altimmune stockholders generally. See the section entitled “The Merger — Interests of Altimmune’s Directors and Officers in the Mergers.”

Opinion of the Financial Advisor to PharmAthene

On January 18, 2017, Houlihan Lokey verbally rendered its opinion to PharmAthene's Board of Directors (which was subsequently confirmed in writing by delivery of Houlihan Lokey's written opinion addressed to PharmAthene's Board of Directors dated January 18, 2017), as to the fairness to PharmAthene, from a financial point of view, of the Exchange Ratio provided for in Merger 1 pursuant to the Merger Agreement.

Houlihan Lokey's opinion was directed to PharmAthene's Board of Directors (in its capacity as such) and only addressed the fairness to PharmAthene, from a financial point of view, of the Exchange Ratio provided for in Merger 1 pursuant to the Merger Agreement and did not address any other aspect or implication of the Transaction or any other agreement, arrangement or understanding. The summary of Houlihan Lokey's opinion in this proxy statement/prospectus is qualified in its entirety by reference to the full text of its written opinion, which is attached as Annex FA to this proxy statement/prospectus/consent solicitation and describes the procedures followed, assumptions made, qualifications and limitations on the review undertaken and other matters considered by Houlihan Lokey in connection with the preparation of its opinion. However, neither Houlihan Lokey's opinion nor the summary of its opinion and the related analyses set forth in this proxy statement/prospectus are intended to be, and do not constitute, advice or a recommendation to PharmAthene's Board of Directors, any security holder of PharmAthene or any other person as to how to act or vote with respect to any matter relating to the Transaction.

In arriving at its opinion, Houlihan Lokey, among other things:

- reviewed the following agreements and documents:
  - a draft execution version of the Merger Agreement; and
  - a draft of the Altimmune Financing Agreement;
- reviewed certain publicly available business and financial information relating to PharmAthene and Altimmune that Houlihan Lokey deemed to be relevant;
- reviewed certain information relating to the historical, current and future operations, financial condition and prospects of PharmAthene and Altimmune made available to Houlihan Lokey by PharmAthene and Altimmune, including (a) financial projections prepared by the managements of PharmAthene and Altimmune relating to PharmAthene and Altimmune, for the years ending 2016 through 2019 in the case of PharmAthene, and the years ending 2016 through 2018 in the case of

Altimmune, and (b) certain forecasts and estimates of potential cost savings, operating efficiencies and other synergies expected to result from the Transaction, all as prepared by the management of PharmAthene (the "Synergies") (see "Certain Financial Forecasts" below);

- spoke with certain members of the managements of PharmAthene and Altimmune regarding the respective businesses, operations, financial condition and prospects of PharmAthene and Altimmune, the Transaction and related matters, including the potential for an equity offering by PharmAthene pre- and post-mergers, together with certain other strategic benefits anticipated by the management of PharmAthene to result from the Transaction;
- reviewed certain reports prepared for PharmAthene by third party consultants regarding certain technical aspects of the product candidates of Altimmune currently in development;
- compared certain operating characteristics of each of PharmAthene and Altimmune with those of (a) certain public companies that Houlihan Lokey deemed to be relevant, and (b) certain companies that issued equity securities in initial public offerings that Houlihan Lokey deemed to be relevant;
- considered the publicly available operating characteristics of certain target companies involved in transactions that Houlihan Lokey deemed to be relevant;
- reviewed the current and historical market prices and trading volume for PharmAthene common stock; and
- conducted such other financial studies, analyses and inquiries and considered such other information and factors as Houlihan Lokey deemed appropriate.

Houlihan Lokey relied upon and assumed, without independent verification, the accuracy and completeness of all data, material and other information furnished, or otherwise made available, to Houlihan Lokey, discussed with or reviewed by Houlihan Lokey, or publicly available, and did not assume any responsibility with respect to such data, material and other information. In addition, managements of PharmAthene and Altimmune advised Houlihan Lokey, and Houlihan Lokey assumed, that the financial projections reviewed by Houlihan Lokey had been reasonably prepared in good faith on bases reflecting the best currently available estimates and judgments of such managements as to the future financial results and condition of PharmAthene and Altimmune, and Houlihan Lokey expressed no opinion with respect to such projections or the assumptions on which they were based. In particular, managements of PharmAthene and Altimmune advised Houlihan Lokey, and Houlihan Lokey assumed, that each management's expectations regarding the (i) development schedule for existing product candidates and future products, (ii) costs associated with such development (including the risks associated with the successful development, testing, receipt of government approval and marketing of such products and product candidates) and (iii) potential for, and timing of, any commercial opportunities for such product candidates and future products, in each case, had been reasonably developed, in good faith, on bases reflecting the best currently available estimates and judgments of such managements as to such matters, and Houlihan Lokey expressed no opinion with respect to such matters or any assumptions on which they were based. Furthermore, upon the advice of the management of PharmAthene, Houlihan Lokey assumed that the estimated Synergies reviewed by Houlihan Lokey had been reasonably prepared in good faith on bases reflecting the best currently available estimates and judgments of the management of PharmAthene and that the Synergies would be realized in the amounts and the time periods indicated thereby, and Houlihan Lokey expressed no opinion with respect to such Synergies or the assumptions on which they were based. Houlihan Lokey relied upon and assumed, without independent verification, that there had been no change in the business, assets, liabilities, financial condition, results of operations, cash flows or prospects of PharmAthene or Altimmune since the respective dates of the most recent financial statements and other information, financial or otherwise, provided to Houlihan Lokey that would have been material to Houlihan Lokey's analyses or its opinion, and that there was no information or any facts that would have made any of the information reviewed by Houlihan Lokey incomplete or misleading.

In reaching its conclusion in its opinion, (i) Houlihan Lokey did not perform a discounted cash flow analysis because, for each of PharmAthene and Altimmune, Houlihan Lokey was not provided with financial information and financial projections that contained sufficient financial metrics to be able to perform such

analyses (in particular, such projections were not of a sufficient length so as to reflect any revenue expected to be generated by the development of each company's product candidates), (ii) Houlihan Lokey's comparisons of certain public companies and certain transactions did not consist of a comparison of certain financial metrics of such companies and transactions with those of PharmAthene, Altimmune and the mergers (in light of the lack of financial metrics for each of PharmAthene and Altimmune). Rather, Houlihan Lokey's comparisons related to a review of the enterprise and equity values of such companies and transactions so as to form a view as to the possible enterprise and equity values of each of PharmAthene and Altimmune, and (iii) Houlihan Lokey analyzed the impact of the Transaction on PharmAthene based on a Minimum Ownership Percentage of 39.6%, as opposed to the Exchange Ratio. Accordingly, Houlihan Lokey assumed that the Post-Closing Private Placement, if any, would be priced at the Pro Forma Valuation Floor. Houlihan Lokey expressed no opinion as to the fairness of the Exchange Ratio in the event that any Post-Closing Private Placement is priced at an aggregate implied equity valuation of PharmAthene common stock of less than the Pro Forma Valuation Floor, such that the percentage ownership of PharmAthene common stock by the holders of PharmAthene common stock immediately prior to Merger 1, pro forma for such private placement, would be less than the Minimum Ownership Percentage.

Houlihan Lokey relied upon and assumed, without independent verification, that (a) the representations and warranties of all parties to the Merger Agreement and Altimmune Financing Agreement and all other related documents and instruments that are referred to therein were true and correct, (b) each party to all such agreements and such other related documents and instruments would fully and timely perform all of the covenants and agreements required to be performed by such party, (c) all conditions to the consummation of the Transaction would be satisfied without waiver thereof, including, without limitation, the consummation of the Private Placements, and (d) the Transaction would be consummated in a timely manner in accordance with the terms described in all such agreements and such other related documents and instruments, without any amendments or modifications thereto. Houlihan Lokey also assumed, with the consent of PharmAthene, that the mergers would qualify as tax-free transactions. Houlihan Lokey relied upon and assumed, without independent verification, that (i) the Transaction would be consummated in a manner that complies in all respects with all applicable federal and state statutes, rules and regulations, and (ii) all governmental, regulatory, and other consents and approvals necessary for the consummation of the Transaction would be obtained and that no delay, limitations, restrictions or conditions would be imposed or amendments, modifications or waivers made that would result in the disposition of any assets of PharmAthene or Altimmune, or otherwise have an effect on the Transaction, PharmAthene or Altimmune or any expected benefits of the Transaction that would be material to Houlihan Lokey's analyses or its opinion. Houlihan Lokey also relied upon and assumed, without independent verification, at the direction of PharmAthene, that any adjustments to the Exchange Ratio pursuant to the Merger Agreement would not be material to Houlihan Lokey's analyses or its opinion. In addition, Houlihan Lokey relied upon and assumed, without independent verification, that the final forms of any draft documents identified above would not differ in any material respect from the drafts of said documents.

Furthermore, in connection with its opinion, Houlihan Lokey was not requested to make, and did not make, any physical inspection or independent appraisal or evaluation of any of the assets, properties or liabilities (fixed, contingent, derivative, off-balance-sheet or otherwise) of PharmAthene, Altimmune or any other party, nor was Houlihan Lokey provided with any such appraisal or evaluation. Houlihan Lokey did not estimate, and expressed no opinion regarding, the liquidation value of any entity or business. Houlihan Lokey undertook no independent analysis of any potential or actual litigation, regulatory action, possible unasserted claims or other contingent liabilities, to which PharmAthene or Altimmune is or may be a party or is or may be subject, or of any governmental investigation of any possible unasserted claims or other contingent liabilities to which PharmAthene or Altimmune is or may be a party or is or may be subject.

Houlihan Lokey was not requested to, and did not, (a) initiate or participate in any discussions or negotiations with, or solicit any indications of interest from, third parties with respect to the Transaction, the securities, assets, businesses or operations of PharmAthene or any other party, or any alternatives to the Transaction, (b) negotiate the terms of the Transaction, or (c) advise PharmAthene's Board of Directors or any other party with respect to alternatives to the Transaction. The opinion was necessarily based on financial, economic, market and other conditions as in effect on, and the information made available to Houlihan Lokey

as of, the date of the opinion. Houlihan Lokey did not undertake, and was under no obligation, to update, revise, reaffirm or withdraw its opinion, or otherwise comment on or consider events occurring or coming to Houlihan Lokey's attention after the date of the opinion. Houlihan Lokey did not express any opinion as to what the value of the PharmAthene common stock actually would be when issued pursuant to Merger 1 or the price or range of prices at which PharmAthene common stock may be purchased or sold, or otherwise be transferable, at any time. Houlihan Lokey assumed that the PharmAthene common stock to be issued in Merger 1 to the holders of the Altimmune preferred stock and the Altimmune common stock would be listed on the NYSE MKT.

Houlihan Lokey's opinion was furnished for the use of PharmAthene's Board of Directors (in its capacity as such) in connection with its evaluation of the Transaction and may not be used for any other purpose without Houlihan Lokey's prior written consent. Houlihan Lokey's opinion was not intended to be, and does not constitute, a recommendation to PharmAthene's Board of Directors, any security holder or any other party as to how to act or vote with respect to any matter relating to the Transaction or otherwise.

Houlihan Lokey was not requested to opine as to, and its opinion did not express an opinion as to or otherwise address, among other things: (i) the underlying business decision of PharmAthene's Board of Directors, PharmAthene, Altimmune, their respective security holders or any other party to proceed with or effect the Transaction, (ii) the terms of any arrangements, understandings, agreements or documents related to, or the form, structure or any other portion or aspect of, the Transaction or otherwise (other than the Exchange Ratio to the extent expressly specified in its opinion), (iii) the fairness of any portion or aspect of the Transaction to the holders of any class of securities, creditors or other constituencies of PharmAthene, Altimmune or to any other party, except if and only to the extent expressly set forth in the last sentence of its opinion, (iv) the relative merits of the Transaction as compared to any alternative business strategies or transactions that might be available for PharmAthene, Altimmune or any other party, (v) the fairness of any portion or aspect of the Transaction to any one class or group of PharmAthene's, Altimmune's or any other party's security holders or other constituents vis-à-vis any other class or group of PharmAthene's, Altimmune's or such other party's security holders or other constituents (including, without limitation, the allocation of any consideration amongst or within such classes or groups of security holders or other constituents), (vi) whether or not the PharmAthene, Altimmune, their respective security holders or any other party is receiving or paying reasonably equivalent value in the Transaction, (vii) the solvency, creditworthiness or fair value of PharmAthene, Altimmune or any other participant in the Transaction, or any of their respective assets, under any applicable laws relating to bankruptcy, insolvency, fraudulent conveyance or similar matters, or (viii) the fairness, financial or otherwise, of the amount, nature or any other aspect of any compensation to or consideration payable to or received by any officers, directors or employees of any party to the Transaction, any class of such persons or any other party, relative to the Exchange Ratio or otherwise. Furthermore, no opinion, counsel or interpretation was intended by Houlihan Lokey in matters that would require legal, regulatory, accounting, insurance, tax or other similar professional advice. Houlihan Lokey assumed that such opinions, counsel or interpretations had been or would be obtained from the appropriate professional sources. Furthermore, Houlihan Lokey relied, with the consent of PharmAthene's Board of Directors, on the assessments by PharmAthene and its advisors, as to all legal, regulatory, accounting, insurance and tax matters with respect to PharmAthene, Altimmune and the Transaction or otherwise. The issuance of Houlihan Lokey's opinion was approved by a committee authorized to approve opinions of such nature.

In performing its analyses, Houlihan Lokey considered general business, economic, industry and market conditions, financial and otherwise, and other matters as they existed on, and could be evaluated as of, the date of its opinion. No company, transaction or business used in Houlihan Lokey's analyses for comparative purposes is identical to PharmAthene or the proposed Transaction and an evaluation of the results of those analyses is not entirely mathematical. As a consequence, mathematical derivations (such as the high, low, mean and median) of financial data are not by themselves meaningful and in selecting the ranges of multiples to be applied were considered in conjunction with experience and the exercise of judgment. The estimates contained in the financial forecasts prepared by the management of PharmAthene and the implied reference range values indicated by Houlihan Lokey's analyses are not necessarily indicative of actual values or predictive of future results or values, which may be significantly more or less favorable than those suggested

by the analyses. In addition, any analyses relating to the value of assets, businesses or securities do not purport to be appraisals or to reflect the prices at which businesses or securities actually may be sold, which may depend on a variety of factors, many of which are beyond the control of PharmAthene. Much of the information used in, and accordingly the results of, Houlihan Lokey's analyses are inherently subject to substantial uncertainty.

Houlihan Lokey's opinion was only one of many factors considered by PharmAthene's Board of Directors in evaluating the proposed Transaction. Neither Houlihan Lokey's opinion nor its analyses were determinative of the Exchange Ratio or of the views of PharmAthene's Board of Directors or management with respect to the Transaction or the Exchange Ratio. Under the terms of its engagement by PharmAthene, neither Houlihan Lokey's opinion nor any other advice or services rendered by it in connection with the proposed Transaction or otherwise, should be construed as creating, and Houlihan Lokey should not be deemed to have, any fiduciary duty to, or agency relationships with, PharmAthene's Board of Directors, PharmAthene, Altimmune, any security holder or creditor of PharmAthene or Altimmune or any other person, regardless of any prior or ongoing advice or relationships. The type and amount of consideration payable in the Transaction were determined through negotiation between PharmAthene and Altimmune, and the decision to enter into the Merger Agreement was solely that of PharmAthene's Board of Directors.

Financial Analyses

In preparing its opinion to PharmAthene's Board of Directors, Houlihan Lokey performed a variety of analyses, including those described below. The summary of Houlihan Lokey's analyses is not a complete description of the analyses underlying Houlihan Lokey's opinion. The preparation of such an opinion is a complex process involving various quantitative and qualitative judgments and determinations with respect to the financial, comparative and other analytical methods employed and the adaptation and application of these methods to the unique facts and circumstances presented. As a consequence, neither Houlihan Lokey's opinion nor its underlying analyses is readily susceptible to summary description. Houlihan Lokey arrived at its opinion based on the results of all analyses undertaken by it and assessed as a whole and did not draw, in isolation, conclusions from or with regard to any individual analysis, methodology or factor. While the results of each analysis were taken into account in reaching Houlihan Lokey's overall conclusion with respect to fairness, Houlihan Lokey did not make separate or quantifiable judgments regarding individual analyses. Accordingly, Houlihan Lokey believes that its analyses and the following summary must be considered as a whole and that selecting portions of its analyses, methodologies and factors, without considering all analyses, methodologies and factors, could create a misleading or incomplete view of the processes underlying Houlihan Lokey's analyses and opinion.

The following is a summary of the material financial analyses performed by Houlihan Lokey in connection with the preparation of its opinion and reviewed with PharmAthene's Board of Directors on January 18, 2017. The order of the analyses does not represent relative importance or weight given to those analyses by Houlihan Lokey. The analyses summarized below include information presented in tabular format. The tables alone do not constitute a complete description of the analyses. Considering the data in the tables below without considering the full narrative description of the analyses, as well as the methodologies underlying, and the assumptions, qualifications and limitations affecting, each analysis, could create a misleading or incomplete view of Houlihan Lokey's analyses.

For purposes of its analyses, Houlihan Lokey reviewed a number of financial metrics, including:

- Enterprise Value — generally, the value as of a specified date of the relevant company's outstanding equity securities (taking into account outstanding options and other securities convertible, exercisable or exchangeable into or for equity securities of the relevant company) plus the amount of its net debt (the amount of its outstanding indebtedness, non-convertible preferred stock, capital lease obligations and non-controlling interests less the amount of cash and cash equivalents on its balance sheet).

Unless the context indicates otherwise, enterprise values and equity values used in the selected companies analysis described below were calculated using the closing price of PharmAthene common stock and the common stock of the selected companies and selected initial public offering (“IPO”) companies listed below as of January 11, 2017, and transaction values for the selected transactions analysis described below were

calculated on an Enterprise Value basis based on the announced transaction equity price and other public information available at the time of the announcement. The calculations of equity value set forth below (i) for PharmAthene were based on (a) estimated cash and cash equivalents at the time of consummation of the mergers of $10.3 million, and (b) estimated present value of potential tax refund benefits generated by taxes paid by PharmAthene in 2016 that are expected to be offset by 2017 and 2018 operating losses of PharmAthene of $2.8 million, (ii) for Altimmune were based on (a) estimated cash and cash equivalents at the time of consummation of the mergers of $3.5 million, and (b) estimated total debt of $1.1 million, and (iii) for the combined company were based on (a) estimated cash and cash equivalents of $13.8 million, (b) estimated present value of potential tax refund benefits generated by taxes paid by PharmAthene in 2016 that are expected to be offset by 2017 and 2018 operating losses of the combined company of $8.3 million, (c) estimated total debt of $1.1 million, and (d) range of estimated present value of Synergies of $5.2 to $5.3 million. In addition, for purposes of certain analyses described below, the “Post-Closing Private Placement” is based on an assumed Post-Closing Private Placement of $5 million of combined company common stock at an implied pre-money combined company equity value of $90 million.

Qualitative Considerations. Houlihan Lokey, in conducting its financial analyses, considered certain qualitative considerations that Houlihan Lokey deemed relevant. In particular, Houlihan Lokey noted that PharmAthene as of January 11, 2017 traded at an implied enterprise value of operations of approximately $12.3 million and had an implied cash runway of approximately 2.4 years (after adjusting for the announced special dividend of approximately $200 million), based on PharmAthene management projections. Although PharmAthene shareholders will give up approximately 60% of their current equity value in the Transaction and the combined company’s cash runway will decline to approximately 1 year, management believes, and Houlihan Lokey took into consideration, that the Transaction provide meaningful upside for stockholders based on a number of strategic considerations, including the following:

- Providing diversification benefits through access to additional platforms and programs outside of the biodefense area, including potential applications in the hepatitis B, immuno-oncology, and influenza markets, which are larger overall markets than the anthrax market according to various industry publications;
- The combined company will have five products in development for four different indications compared to PharmAthene, which currently only has one product in development.
- Expecting to be viewed positively by the BARDA given Altimmune's relationship with BARDA and BARDA's preference for the added stability of companies that produce multiple products;
- Altimmune's platform technologies provide a basis for the development of multiple product candidates across a variety of indications;
- With the addition of Altimmune's anthrax vaccine product, PharmAthene management believes the Transaction will increase the probability of success of an anthrax vaccine reaching commercialization;
- The addition of Altimmune's product will ultimately strengthen the combined company’s ability to compete against certain products currently in development;
- Improved access to capital, particularly with the potential availability of continued investment and support from existing Altimmune stockholders; and
- Stockholders will also benefit from having multiple product milestones, such as clinical trial data or enrollment, rather than a single near-term product milestone.

Selected Public Companies Analysis. Houlihan Lokey reviewed equity market values and Enterprise Values for two selected biopharmaceutical companies with a single product and six selected biopharmaceutical companies with more than one product, which, in each case, have publicly traded equity securities and that Houlihan Lokey deemed relevant.

In selecting such publicly traded companies, Houlihan Lokey considered companies with Enterprise Values greater than $20 million and less than $1 billion, as well as the following quantitative and qualitative attributes:

- 90-day average daily trading volume; a minimum trading volume of 100,000 shares over a 90-day period;
- The following characteristics of the companies' lead product: phase of development, therapeutic category; and
- The following characteristics of the companies' pipelines: phase of development, number of products in development, therapeutic focus, and platform technology.

In addition, Houlihan Lokey considered the following:

- Pre-revenue biopharmaceutical companies with a focus on any of the following therapeutic areas: anti-infective, autoimmune, or biodefense;
- Pre-revenue biopharmaceutical companies with a technology platform or drug delivery technology; and
- Pre-revenue IPOs from 2014-present with a lead product that is currently in Phase 2 or earlier of development.

Houlihan Lokey bifurcated the selected companies into two groups as follows:

- Selected companies with a single product in development at Phase 2 or earlier of clinical trials; and
- Selected companies focused on developing products for the anti-infective areas with more than one product candidate, or a technology platform, in Phase 3 or earlier of clinical trials.

The selected public companies and corresponding number of products in development, product phases of development and therapeutic categories were as follows:

Single Product Companies

Company Name	Products in Development	Phase	Therapeutic Category
Flex Pharma, Inc.	1	Submitting IND/ Phase 2 in 2017	Neuromuscular
Galmed Pharmaceuticals Ltd.	1	Phase 2	Non-Alcoholic Fatty Liver Disease

More than One Product in Development & Anti-Infective Focus

Company Name	Products in Development	Phase	Therapeutic Category
ABIVAX S.A.	6	Phase 2	HIV
Genocea Biosciences, Inc.	8	Phase 2	Genital Herpes
Idera Pharmaceuticals, Inc.	8	Phase 2	Dermatomyositis
Pfenex Inc.	10	Phase 2	Retinal Diseases
SCYNEXIS, Inc.	3	Phase 2	Fungal Infections
Seres Therapeutics, Inc.	6	Phase 2	Clostridium Difficile

The related low, high, mean and median (in the case of selected public companies with more than one product) equity market values and Enterprise Values for the selected public companies were as follows:

	Equity Market Value	Enterprise Value
	(in millions)	(in millions)
Single Product Companies		
Low	$ 50.6	$ 23.8
High	$ 91.1	$ 32.3
Mean	$ 70.9	$ 28.1
More than One Product in Development and Anti-Infective Focus		
Low	$ 65.3	$ 36.1
High	$ 436.2	$ 232.9
Median	$ 169.5	$ 93.4
Mean	$ 204.0	$ 116.8
All Selected Companies		
Low	$ 50.6	$ 23.8
High	$ 436.2	$ 232.9
Median	$ 105.3	$ 52.1
Mean	$ 170.7	$ 94.6
Anti-Infective Focus, 2 – 6 Products in Development		
Low	$ 65.3	$ 36.1
High	$ 436.2	$ 232.9
Median	$ 81.6	$ 43.4
Mean	$ 194.4	$ 104.1

Additionally, Houlihan Lokey's selection of Altimmune's implied Enterprise Value range considered a subset of companies Houlihan Lokey felt more closely tracked the number of products in the pipeline: Abivax S.A., SCYNEXIS, Inc. and Seres Therapeutics, Inc. Houlihan Lokey also considered Altimmune's lack of adequate funding to fast-track development of its non-biodefense programs and the potential for its platform technologies.

From this selected public companies analysis, Houlihan Lokey selected an implied Enterprise Value range for each of PharmAthene and Altimmune. The selected low and high implied Enterprise Values for each of PharmAthene and Altimmune were as follows:

Implied Enterprise Value Range
(in millions)

	PharmAthene	Altimmune
Low	$ 20.0	$ 60.0
High	$ 35.0	$ 80.0

Taking into account the results of the selected public companies analysis, Houlihan Lokey calculated an implied range of PharmAthene stockholder ownership percentage of the combine company, as well as an implied equity value reference range of PharmAthene on each of a standalone basis, pro forma for the mergers excluding the Post-Closing Private Placement and pro forma for the mergers including the Post-Closing Private Placement.

The analysis indicated the following implied range of PharmAthene stockholder ownership percentage of the combined company as compared to the range of PharmAthene stockholder ownership of the combined company implied by the Exchange Ratio, both including and excluding the Post-Closing Private Placement:

Implied PharmAthene Stockholder Ownership of Combined Company based on Selected Companies Analysis	Implied PharmAthene Stockholder Ownership of Combined Company Based on Exchange Ratio
23.4% – 45.3%	39.6% – 41.8%

The analysis also indicated the following implied equity value reference ranges to PharmAthene stockholders on each of a standalone basis, pro forma for the mergers excluding the Post-Closing Private Placement and pro forma for the mergers including the Post-Closing Private Placement:

Implied Equity Value Reference Range to PharmAthene Stockholders

PharmAthene Pre-Transaction	(in millions) PharmAthene Stockholder Ownership in Combined Company Post-Transaction Excluding the Post-Closing Private Placement	PharmAthene Stockholder Ownership in Combined Company Post-Transaction Including the Post-Closing Private Placement
$33.1 – $48.1	$44.4 – $59.1	$44.0 – $57.9

Selected Biotech IPO Analysis. Houlihan Lokey also reviewed the implied Enterprise Values of companies that completed an IPO from January 1, 2014 to January 11, 2017 which were in similar therapeutic areas as PharmAthene and Altimmune, as well as possessing similar technology platforms and products in a similar stage of development. Specifically, Houlihan Lokey selected such IPO companies that had a lead product in Phase 2 or earlier of development (excluding any such companies with a pre-money valuation of over $500 million).

Houlihan Lokey bifurcated such IPO companies as follows:

- Companies with a single product in development at Phase 2 or earlier of clinical trials; and
- Companies with more than one product candidate in Phase 2 or earlier of clinical trials.

The related low, high, mean and median post-money Enterprise Values of the selected IPO companies, together with the mean and median equity value percentage differentials between such selected IPO companies' IPO price and their current trading price were as follows:

	Post-Money Enterprise Value	**Offer to Current Share Price**
	(in millions)	
Selected IPOs with Pre-Clinical – with One Product in Phase 2 or Earlier		
Low	$ 19.6	—
High	$ 295.5	—
Mean	$ 111.9	(61.5)%
Median	$ 107.3	(68.3)%
Selected IPOs with More than One Product in Phase 2 or Earlier		
Low	$ 47.8	—
High	$ 164.8	—
Mean	$ 88.0	1.0%
Median	$ 82.6	(14.4)%

From the selected biotech IPO analysis, Houlihan Lokey selected an implied Enterprise Value range for each of PharmAthene and Altimmune. The selected low and high implied Enterprise Values for each of PharmAthene and Altimmune were as follows:

Implied Enterprise Value Range
(in millions)

	PharmAthene	Altimmune
Low	$ 30.0	$ 65.0
High	$ 40.0	$ 85.0

Houlihan Lokey's selected range for PharmAthene was based on a discount to the post-money Enterprise Value of one-product companies, reflecting the relatively limited upside of biodefense programs and the recent market performance of one-product IPO companies. Houlihan Lokey's selected range for Altimmune was based on a discount to selected IPO companies reflecting its relatively early stage (Phase 2 ready), lack of adequate funding to fast-track development of its non-biodefense programs, the potential for its platform technologies and recent performance of the selected IPO companies.

Taking into account the results of the selected biotech IPO analysis, Houlihan Lokey calculated an implied range of PharmAthene stockholder ownership percentage of the combined company, as well as an implied equity value reference range of PharmAthene on each of a standalone basis, pro forma for the mergers excluding the Post-Closing Private Placement and pro forma for the mergers including the Post-Closing Private Placement.

The analysis indicated the following implied range of PharmAthene stockholder ownership percentage of the combined company as compared to the range of PharmAthene stockholder ownership of the combined company implied by the Exchange Ratio, both including and excluding the Post-Closing Private Placement:

Implied PharmAthene Ownership of Combined Company based on Selected Biotech IPOs Analysis	Implied PharmAthene Ownership of Combined Company Based on Exchange Ratio
28.5% – 43.8%	39.6% – 41.8%

The analysis also indicated the following implied equity value reference ranges to PharmAthene stockholders on each of a standalone basis, pro forma for the mergers excluding the Post-Closing Private Placement and pro forma for the mergers including the Post-Closing Private Placement:

Implied Equity Value Reference Range to PharmAthene Stockholders
(in millions)

PharmAthene Pre-Transaction	PharmAthene Ownership in Combined Company Post-Transaction Excluding the Post-Closing Private Placement	PharmAthene Ownership in Combined Company Post-Transaction Including the Post-Closing Private Placement
$43.1 – $53.1	$50.7 – $63.2	$50.0 – $61.9

Other Information

Houlihan Lokey observed certain additional information that was not considered part of its financial analysis for its opinion but was noted for informational purposes, including, among other things, the following:

M&A Transactions Analysis. Houlihan Lokey reviewed the “upfront” consideration payable in certain mergers and acquisitions transactions from January 1, 2014 to January 11, 2017 involving target companies with a lead product in Phase 1 or earlier of development (excluding any transactions in which the “upfront” consideration was over $1 billion), and that were developing products in similar therapeutic areas to those of PharmAthene and Altimmune. Such “upfront” consideration refers to the consideration to be paid at the consummation of the relevant transaction, with the balance of transaction consideration to be paid based on

(a) future achieved operational or financial milestones or product development progress, or (b) royalties tied to future sales or similar performance metrics. Many such transactions involved significant expected contingent consideration.

The resultant transactions were ultimately considered to have insufficient data publicly available upon which to determine meaningful implied equity value reference ranges for two reasons: (i) many of such transactions involved private companies, for which there was insufficient information publicly available so as to evaluate such target companies' comparability to either PharmAthene or Altimmune, and (ii) any possible valuation analyses for many of such target companies were limited to upfront consideration paid, which resulted in an inability to review the actual proposed consideration expected to be paid in such transactions because of the speculative nature of any contingent consideration.

Houlihan Lokey bifurcated such transactions as follows:

- Target companies with a single product in development at Phase 1 or earlier of clinical trials; and
- Target companies with more than one product candidate in Phase 1 or earlier of clinical trials.

The resultant transactions involving target companies with a single product consisted of the following:

Pre-Clinical-Phase 1: 1 Product

Date Announced	Target	Acquiror
1/11/16	Tensha Therapeutics, Inc	Roche Holding AG
1/27/16	Fluorinov Pharma Inc	Trillium Therapeutics Inc
12/23/15	PhosImmune Inc	Agenus Inc
3/23/16	Padlock Therapeutics Inc	Bristol-Myers Squibb Company

The related low, high, mean and median upfront consideration amounts for the resultant transactions involving target companies with a single product were as follows:

Upfront Consideration

	(in millions)
Low	$ 7.0
High	$ 225.0
Mean	$ 89.2
Median	$ 62.5

The resultant transactions involving target companies with more than one product consisted of the following:

Pre-Clinical-Phase 1: More than 1 Product

Date Announced	Target	Acquiror
8/1/16	Bamboo Therapeautics, Inc.	Pfizer Inc.
7/6/16	MiaMed, Inc	Amicus Therapeutics, Inc.
10/21/15	Admune Therapeutics LLC	Novartis International AG
6/18/15	Santalis Pharmaceuticals, Inc.	TFS Corporation Ltd.
6/2/15	X-BODY, Inc.	Juno Therapeutics, Inc.
4/27/15	Quanticel Pharmaceuticals, Inc.	Celgene Corporation
2/23/15	FLX Bio, Inc.	Bristol-Myers Squibb Company
1/11/15	OnCore Biopharma, Inc.	Tekmira Pharmaceuticals
8/11/14	Alpine Biosciences, Inc.	Oncothyreon Inc.
8/1/14	BIKAM Pharmaceuticals, Inc.	Shire plc
7/1/14	Seragon Pharmaceuticals Inc.	Genetech, Inc.
6/10/14	EGEN	Celsion Corporation
5/15/14	SKS Ocular, LLC	Ohr Pharmaceutical, Inc.
4/29/14	iPierian, Inc.	Bristol-Myers Squibb Company
2/17/14	CoStim Pharmaceuticals Inc.	Novartis AG

The related low, high, mean and median upfront consideration amounts for the resultant transactions involving target companies with more than one product consisted of the following:

Upfront Consideration

	(in millions)
Low	$ 2.5
High	$ 800.0
Mean	$ 189.5
Median	$ 100.0

From the mergers and acquisitions transactions analysis, Houlihan Lokey selected an implied Enterprise Value range for each of PharmAthene and Altimmune. The selected low and high implied Enterprise Values for each of PharmAthene and Altimmune were as follows:

Implied Enterprise Value Range
(in millions)

	PharmAthene	Altimmune
Low	$ 45.0	$ 85.0
High	$ 55.0	$ 100.0

Houlihan Lokey's selected range for PharmAthene was based on a discount to one-product companies' median due to the limited market for biodefense programs compared to other therapeutic areas. Houlihan Lokey's selected range for Altimmune was based on a discount to the median of more than one product companies to reflect its relatively early stage (Phase 2 ready), lack of adequate funding to fast-track development of its non-biodefense programs, and the potential for its platform technologies.

Taking into account the results of the selected mergers and acquisitions transactions analysis, Houlihan Lokey calculated an implied range of PharmAthene stockholder ownership percentage of the combined company, as well as an implied equity value reference range of PharmAthene on each of a standalone basis, pro forma for the mergers excluding the Post-Closing Private Placement and pro forma for the mergers including the Post-Closing Private Placement.

The analysis indicated the following implied range of PharmAthene stockholder ownership percentage of the combined company as compared to the range of PharmAthene stockholder ownership of the combined company implied by the Exchange Ratio, both including and excluding the Post-Closing Private Placement:

Implied PharmAthene Stockholder Ownership of Combined Company based on Selected M&A Transactions Analysis	Implied PharmAthene Stockholder Ownership of Combined Company Based on the Exchange Ratio
32.0% – 43.6%	39.6% – 41.8%

The analysis also indicated the following implied equity value reference ranges to PharmAthene stockholders on each of a standalone basis, pro forma for the mergers excluding the Post-Closing Private Placement and pro forma for the mergers including the Post-Closing Private Placement:

Implied Equity Value Reference Range to PharmAthene Stockholders

	(in millions)	
PharmAthene Pre-Transaction	PharmAthene Ownership in Combined Company Post-Transaction Excluding the Post-Closing Private Placement	PharmAthene Ownership in Combine Company Post-Transaction Including the Post-Closing Private Placement
$58.1 – $68.1	$65.3 – $75.8	$63.8 – 73.8

Miscellaneous

Houlihan Lokey was engaged by PharmAthene to provide an opinion to PharmAthene's Board of Directors as to the fairness to PharmAthene, from a financial point of view, of the Exchange Ratio provided for in Merger 1 pursuant to the Merger Agreement. PharmAthene engaged Houlihan Lokey based on Houlihan Lokey's experience and reputation. Houlihan Lokey is regularly engaged to render financial opinions in connection with mergers, acquisitions, divestitures, leveraged buyouts, and for other purposes. Pursuant to its engagement by PharmAthene, Houlihan Lokey is entitled to an aggregate fee of $400,000 for its services, a portion of which became payable upon the execution of Houlihan Lokey's engagement letter and the balance of which became payable upon the delivery of Houlihan Lokey's opinion. No portion of Houlihan Lokey's fee was contingent upon the successful completion of the Transaction. PharmAthene has also agreed to reimburse Houlihan Lokey for certain expenses and to indemnify Houlihan Lokey, its affiliates and certain related parties against certain liabilities and expenses, including certain liabilities under the federal securities laws, arising out of or related to Houlihan Lokey's engagement.

In the ordinary course of business, certain of Houlihan Lokey employees and affiliates, as well as investment funds in which they may have financial interests or with which they may co-invest, may acquire, hold or sell, long or short positions, or trade, in debt, equity, and other securities and financial instruments (including loans and other obligations) of, or investments in, PharmaAthene or any other party that may be involved in the Transaction and their respective affiliates or any currency or commodity that may be involved in the Transaction.

Houlihan Lokey and certain of its affiliates may provide investment banking, financial advisory and/or other financial or consulting services to PharmAthene, Altimmune, other participants in the Transaction or certain of their respective affiliates in the future, for which Houlihan Lokey and its affiliates may receive compensation. Furthermore, in connection with bankruptcies, restructurings, and similar matters, Houlihan Lokey and certain of its affiliates may have in the past acted, may currently be acting and may in the future act as financial advisor to debtors, creditors, equity holders, trustees, agents and other interested parties (including, without limitation, formal and informal committees or groups of creditors) that may have included or represented and may include or represent, directly or indirectly, or may be or have been adverse to, PharmAthene, Altimmune, other participants in the Transaction or certain of their respective affiliates, for which advice and services Houlihan Lokey and its affiliates have received and may receive compensation.

Certain Financial Forecasts

PharmAthene and Altimmune management do not, as a matter of course, generally prepare or make available to the public forecasts or financial projections due to, among other reasons, the inherent uncertainty, unpredictability and subjectivity of the underlying assumptions and estimates. However, in connection with the Mergers, at the request of Houlihan Lokey, in December 2016, management of both PharmAthene and Altimmune provided to Houlihan Lokey certain financial projections through the year ended December 31, 2018 and PharmAthene management provided to Houlihan Lokey certain forecasts and estimates of potential cost savings, operating efficiencies and other synergies expected to result from the Mergers, which are included in the general and administrative expenses and research and development expenses noted below, as well as projected contract revenue, related expenses and overhead. This unaudited prospective financial information (“prospective financial information”) was based on the respective management’s forecast of its company's future financial performance as of the date prepared, were prepared to assist Houlihan Lokey with its financial analysis, and were not prepared with a view toward public disclosure or compliance with published guidelines of the SEC regarding forward-looking information or the guidelines established by the American Institute of Certified Public Accountants for preparation and presentation of financial forecasts or GAAP. Neither PharmAthene's nor Altimmune's independent registered public accounting firm nor any other independent accountants have compiled, examined or performed any procedures with respect to this prospective financial information, nor have they expressed any opinion or given any form of assurance on the prospective financial information or the achievability of any of the numbers included therein. The prospective financial information includes a non-GAAP financial measure. Non-GAAP financial measures should not be considered in isolation from, or as a substitute for, financial information presented in compliance with GAAP, and non-GAAP financial measures included in the prospective financial information may not be comparable to similarly titled amounts used by other companies.

The prospective financial information in this proxy statement/prospectus/consent solicitation are being provided solely to give the stockholders of PharmAthene and Altimmune access to certain information that was made available to Houlihan Lokey. In compiling the prospective financial information, management of PharmAthene and Altimmune took into account historical performance, combined with estimates regarding revenues, general and administrative expenses, and research and development expenses. Although the prospective financial information is presented with numerical specificity, they reflect numerous assumptions and estimates as to future events made by management of PharmAthene and Altimmune that the respective management believed were reasonable at the time the projections were prepared. However, this information is not fact, and should not be relied upon as being indicative of actual future results and the delivery of the prospective financial information should not be regarded as an indication that PharmAthene, Altimmune or any of their respective affiliates, officers, directors, partners, advisors or other representatives considered, or now consider, those projections to be necessarily predictive of actual future results. In addition, the prospective financial information provided herein does not necessarily reflect certain changes to the assumptions and estimates relied upon by management of PharmAthene and Altimmune since the date of Houlihan Lokey's opinion. Furthermore, since the prospective financial information covers multiple years, such information by its nature becomes less predictive with each successive year.

There are various risks associated with PharmAthene, Altimmune and the Mergers, including the factors described under the section of this proxy statement/prospectus/consent solicitation entitled "Risk Factors," as well as the documents that PharmAthene has filed with the SEC that are incorporated by reference in this proxy statement/prospectus/consent solicitation, which are difficult to predict and beyond the control of management of PharmAthene and Altimmune, and which may cause the projections or the underlying assumptions not to be reflective of actual future results. The prospective financial information does not take into account any circumstances or events occurring after the date that they were prepared and, accordingly, do not give effect to any changes to operations or strategy that may be implemented or that were not anticipated after the time the projections were prepared. As a result, the projections may not be realized, and actual results may be materially different than those contained in the prospective financial information. Shareholders are cautioned not to place undue reliance on the information presented below, and should refer to the section "Altimmune's Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity" included in this proxy statement/prospectus/consent solicitation, and the corresponding sections in the documents that PharmAthene has filed with the SEC that are incorporated by reference into this proxy/statement/prospectus/consent solicitation, for information with respect to the cash obligations and the ability to fund the operations of each company. Neither PharmAthene, Altimmune nor any of their respective affiliates, advisors, officers, directors or representatives can give any assurance that actual results will not differ from the prospective financial information, and neither PharmAthene, Altimmune nor any of their respective affiliates, advisors, officers, directors or representatives undertakes any obligation to update, or publicly disclose any update to, this prospective financial information to reflect circumstances or events, including unanticipated events, that may have occurred or that may occur after the preparation of these projections, even in the event that any or all of the assumptions underlying the prospective financial information are shown to be in error or change. Neither PharmAthene nor Altimmune intend to make available publicly any update or other revision to the prospective financial information, except as otherwise required by law.

Subject to the foregoing qualifications, PharmAthene and Altimmune provided Houlihan Lokey with the following prospective financial information: (1) estimated annual revenue for the Combined Company of approximately $12.0 million and $24.0 million in the years ending December 31, 2017 and 2018, respectively, comprised of: (i) approximately $5.0 million during 2017 and $16.0 million during 2018 projected to be received by Altimmune under its 2016 agreement with BARDA (approximately $7.0 million of which is subject to the exercise of options by BARDA); (ii) approximately $5.1 million in 2017 and $5.7 million in 2018 projected to be received by PharmAthene under its 2014 agreement with NIAID (of which $2.3 million in 2017 and the entirety in 2018 is subject to the exercise of an option by NIAID); and (iii) approximately $1.9 million in 2017 and $2.3 million in 2018 projected to be received by Altimmune, comprised of anticipated research and development tax credits and VAT refunds in the United Kingdom which are directly related to anticipated expenditures for projects relating to HepTcell, (2) estimated research and development expenses of the Combined Company of approximately $20.9 million and $37.0 million in 2017 and 2018,

respectively, (3) estimated general and administrative expenses for the Combined Company of approximately $5.1 million and $5.2 million in 2017 and 2018, respectively, (4) estimated negative adjusted EBITDA of the Combined Company of approximately $14.0 million and $18.2 million in 2017 and 2018, respectively; and (5) estimated cash balances of $3.3 million at December 31, 2017, negative $0.6 million at March 31, 2018 and negative $9.9 million at December 31, 2018. As used in the prospective financial information, adjusted EBITDA includes interest and excludes depreciation and stock compensation. Shareholders should note that these estimated cash balances were since updated and Altimmune currently believes that the net proceeds from the Altimmune Financing Agreement and its other funding arrangements, its existing cash, and, to the extent the mergers are completed, the existing cash of PharmAthene, will be sufficient to fund its projected operating requirements through at least the first quarter of 2018. See “Altimmune’s Management’s Discussion and Analysis of Financial Condition and Results of Operations — Liquidity” included in this proxy statement/prospectus/consent solicitation, and the corresponding sections in the documents that PharmAthene has filed with the SEC that are incorporated by reference into this proxy/statement/prospectus/consent solicitation, for information with respect to the cash obligations and the ability to fund the operations of each company.

Interests of PharmAthene's Directors and Executive Officers in the Mergers

In considering the recommendation of the PharmAthene Board of Directors to PharmAthene stockholders to vote in favor of the issuance of shares of PharmAthene common stock in the mergers, and the other matters to be acted upon by PharmAthene stockholders at the PharmAthene special meeting, PharmAthene stockholders should be aware that members of the PharmAthene Board of Directors and PharmAthene's executive officers have interests in the mergers that may be different from, or in addition to, or conflict with, the interests of PharmAthene stockholders.

Interests of the PharmAthene directors and executive officers relate to the continuing service of John M. Gill, Mitchel Sayare, Ph.D., and Derace Schaffer, M.D., as directors of the combined company following completion of the mergers and the payment of cash and equity compensation in consideration for continuing service in such capacity.

The employment agreement with Mr. Gill, specifically provides for a payment to him upon the closing of the mergers, upon which he will receive, if terminated without cause or for “good reason” or upon a written notice of non-extension, his target bonus of 50% of his base salary, or $153,150. The employment agreement with Philip MacNeill, PharmAthene’s CFO provides that Mr. MacNeill will be eligible to receive: (i) a severance payment in the amount of $93,094 if Mr. MacNeill remains employed with PharmAthene through the closing of the mergers and the preparation of PharmAthene's 2016 annual report and proxy statement for the PharmAthene 2017 annual meeting of stockholders and (ii) a bonus payment in the amount of $67,235 if he remains employed through the closing of the mergers. Each payment will become due and payable upon a termination by PharmAthene without cause.

The PharmAthene Board of Directors was aware of these potential conflicts of interest and considered them, among other matters, in reaching its decision to approve the Merger Agreement and the transactions contemplated thereby, including the issuance of shares of PharmAthene common stock in the mergers, and to recommend that PharmAthene stockholders approve the issuance of shares of PharmAthene common stock in the mergers and related matters. Other than undertaking to provide full disclosure of these potential conflicts of interest, the PharmAthene Board of Directors did not take any other steps to alleviate such potential conflicts of interest since it did not consider such potential conflicts of interest to be material in connection with its decision to approve the Merger Agreement and the transactions contemplated thereby, including the issuance of shares of PharmAthene common stock.

Continuing Directors

Following completion of the mergers, continuing directors Mitchel Sayare, Derace L. Schaffer and John M. Gill, will continue to receive cash and equity compensation in accordance with PharmAthene's equity compensation policies for non-employee directors. Currently, PharmAthene's policy provides:

- annual cash retainer for membership on the PharmAthene Board of Directors is $40,000, which may, at the election of each director, be paid in cash or equity (in the form of non-qualified stock options and/or restricted stock awards);
    - non-qualified stock options issued in lieu of the cash retainer vest in equal quarterly installments over the period of one year and are valued pursuant to a Black-Scholes calculation using the same assumptions PharmAthene used for stock option expense calculations in PharmAthene's then most recently filed quarterly report on Form 10-Q;
    - restricted stock awards issued in lieu of the cash retainer vest in equal quarterly installments over the period of one year and are valued at their fair market value on the date of grant;
- $25,000 additional cash retainer for the Chairman of the PharmAthene Board of Directors;
- $15,000 cash retainer for the Audit Committee chair;
- $5,000 cash retainer for membership on the Audit Committee (other than Audit Committee chair);
- $12,000 cash retainer for the Compensation Committee chair;
- $3,000 cash retainer for membership on the Compensation Committee (other than Compensation Committee chair);
- $10,000 cash retainer for the Governance and Nominating Committee chair; and
- $2,500 cash retainer for membership on the Governance and Nominating Committee (other than Governance and Nominating Committee chair).

No other cash fees are payable to non-employee board members for their service on the PharmAthene Board of Directors.

In addition, every non-employee member of PharmAthene's Board of Directors is entitled annually to receive an option to purchase 20,000 shares of PharmAthene's common stock on the date of PharmAthene's annual meeting of stockholders, at an exercise price per share based on the closing price of PharmAthene's common stock on the grant date as reported on the NYSE MKT.

Following the consummation of the mergers, the board of directors of the combined company may change these policies.

Interests of Altimmune's Directors and Officers in the Mergers

In considering the recommendation of the Altimmune Board of Directors to Altimmune stockholders to approve the mergers and to adopt and approve the Merger Agreement and the related transactions in the Altimmune written consent, Altimmune stockholders should be aware that members of the Altimmune Board of Directors and Altimmune's officers have interests in the mergers that may be different from, in addition to, or may conflict with the interests of Altimmune stockholders. These interests relate to or arise from, among other things:

- The beneficial ownership interests of Altimmune directors and officers in shares of Altimmune capital stock and securities to be converted into PharmAthene common stock and rights to purchase PharmAthene common stock in the mergers.
- The agreement that David J. Drutz, M.D., Philip Hodges, Klaus Schafer, M.D., and William Enright, each an Altimmune director, will continue to serve on the Board of Directors of the combined company following the consummation of the mergers.
- The assumption by PharmAthene of all stock options held by the Altimmune executive officers and board members upon the consummation of the mergers.

- The agreement that William Enright, Elizabeth A. Czerepak, M. Scot Roberts, Ph.D. and Sybil Tasker, M.D., each an Altimmune executive officer, will continue to serve as executive officers of the combined company following the consummation of the mergers. The employment agreement between Altimmune and Mr. Enright will become effective upon the closing of the mergers. The employment agreements between Altimmune and each of Ms. Czerepak and Drs. Roberts and Tasker will continue in effect following the closing of the mergers.
- Pursuant to the employment agreement between Altimmune and William J. Enright, the combined company anticipates granting Mr. Enright an option to purchase a number of shares of common stock of the combined company equal to the number of shares issuable to a holder of 133,395 shares of Altimmune Common Stock prior to the merger.
- At the closing of the mergers, pursuant to the terms of their respective employment agreements, the base salaries of Mr. Enright, Ms. Czerepak and Dr. Roberts will be increased to $375,000, $325,000 and 220,000, respectively.
- The right to continued indemnification and insurance coverage for directors and executive officers of Altimmune following completion of the merger, pursuant to the terms of the Merger Agreement, as described in more detail below.

The Altimmune Board of Directors was aware of these potential conflicts of interest and considered them, among other matters, in reaching its decision to approve the Merger Agreement and the transactions contemplated thereby, including the mergers, and to recommend that Altimmune stockholders approve the mergers and related matters. Other than full disclosure of these potential conflicts of interest, the Altimmune Board of Directors did not take any other steps to alleviate such potential conflicts of interest since it did not consider such potential conflicts of interest to be material in connection with its decision to approve the Merger Agreement and the transactions contemplated thereby, including the mergers.

Ownership Interests

As of March 22, 2017, the latest practicable date before the filing of this proxy statement/prospectus/consent solicitation, directors and executive officers of Altimmune, together with their respective affiliates, owned and were entitled to vote, in the aggregate, approximately 6.1 million shares of Altimmune capital stock, or approximately 68% of the shares of Altimmune capital stock outstanding on that date. Assuming the mergers had been completed as of such date, all directors and executive officers of Altimmune, together with their respective affiliates, would beneficially own, in the aggregate, 39.6% of the outstanding shares of common stock of the combined company.

For a more complete discussion of the ownership interests of the directors and executive officers of Altimmune, see the section of this proxy statement/prospectus/consent solicitation entitled “Principal Stockholders of Altimmune.”

Directors

Following completion of the mergers, Dr. Drutz, Mr. Hodges, and Dr. Schafer are expected to receive cash and equity compensation in accordance with PharmAthene's equity compensation policies for non-employee directors as described in the section above entitled “— Continuing Directors.”

Stock Options

At the Effective Time of the mergers, each Altimmune stock option to purchase Altimmune common stock not exercised prior to the mergers will be assumed by PharmAthene and become exercisable for such number of shares of PharmAthene common stock as is determined by multiplying the number of shares of Altimmune common stock subject to the option by the Exchange Ratio and rounding that result down to the nearest whole number of shares of PharmAthene common stock, and at a per share exercise price as is determined by dividing the existing exercise price of the option by the Exchange Ratio and rounding that result up to the nearest whole cent.

The table below sets forth, as of March 22, 2017, information with respect to options held by each of the executive officers and directors of Altimmune as of such date.

Name	Number of Shares of Common Stock Subject to Options (vested and unvested)
William Enright	630,901
Elizabeth A. Czerepak	263,411
M. Scot Roberts, Ph.D.	112,497
Bertrand Georges, Ph.D.	122,886
Sybil Tasker, M.D.	65,000
David J. Drutz, M.D.	30,677
Christine Brennan	—(1)
Philip Hodges	—
Philippe Pouletty, M.D.	—(2)
Klaus Schafer, M.D.	13,547
Mårten Steen, M.D., Ph.D.	—

(1) Novartis Bioventures Ltd. holds options to acquire 739 shares of Altimmune Class A Common Stock. Christine Brennan is an employee of a corporation that is affiliated with Novartis Bioventures Ltd. Ms. Brennan disclaims beneficial ownership of the shares underlying the options held by Novartis Bioventures Ltd., except to the extent of her pecuniary interest arising as a result of her employment by such affiliate of Novartis Bioventures Ltd.

(2) Truffle Capital S.A.S., a French société par actions simplifiée, is the fund manager for funds that hold, in the aggregate, options to acquire 739 shares of Altimmune Class A Common Stock. Philippe Pouletty may be deemed to possess voting and dispositive control over the shares underlying the options held by funds managed by Truffle Capital S.A.S., and may be deemed to have indirect beneficial ownership of such shares. Mr. Pouletty disclaims beneficial ownership of such shares, except to the extent of his pecuniary interests therein.

Employment Agreements

Upon the closing of the mergers, the employment agreement between Altimmune and Mr. Enright will become effective. The employment agreements between Altimmune and each of Ms. Czerepak and Drs. Roberts and Tasker will continue in effect following the closing of the mergers.

Indemnification and Insurance

The Merger Agreement provides that the combined company will continue to indemnify and hold harmless each present and former director and officer of Altimmune, with respect to acts or omissions occurring or alleged to have occurred at or prior to completion of the mergers, to the fullest extent permitted under applicable law.

The Merger Agreement also provides that, prior to completion of the mergers, Altimmune must purchase and maintain for a period of six years following completion of the mergers, a directors' and officers' liability “tail” insurance policy covering the present and former directors and officers of Altimmune for events occurring prior to completion of the mergers.

Regulatory Approvals

Neither PharmAthene nor Altimmune is required to make any filings or to obtain approvals or clearances from any antitrust regulatory authorities in the United States or other countries to consummate the mergers. In the United States, PharmAthene must comply with applicable federal and state securities laws in connection with the issuance of shares of PharmAthene common stock in the mergers, including the filing with the SEC of the registration statement of which this proxy statement/prospectus/consent solicitation is a part. In addition, as described below in the section entitled “— NYSE MKT Listing of PharmAthene Common Stock,”, PharmAthene must comply with applicable rules of the NYSE MKT which require the preparation and

approval of an initial listing application submitted by PharmAthene on behalf of the combined company in order for the shares of PharmAthene common stock issuable in connection with the mergers to be listed on the NYSE MKT.

NYSE MKT Listing of PharmAthene Common Stock

PharmAthene common stock currently is listed on the NYSE MKT under the symbol “PIP”. Altimmune is a private company and its stock is not listed on a securities exchange. According to applicable NYSE MKT market rules, an issuer must apply for initial listing following a transaction in which the issuer combines with a non-NYSE MKT listed entity, resulting in a change of control of the issuer and potentially allowing the non-listed entity to obtain a NYSE MKT listing. Accordingly, PharmAthene intends to file an initial listing application with NYSE MKT on behalf of the combined company to seek listing on the NYSE MKT upon the closing of the mergers. The listing standards of NYSE MKT will require the combined company to have, among other things, a $2.00 or $3.00 per share minimum bid price upon the closing of the mergers, depending on which listing standard the combined company seeks to satisfy.

Certain Material U.S. Federal Income Tax Consequences of the Mergers

PharmAthene and Altimmune intend the mergers to qualify as a “reorganization” within the meaning of Section 368(a) of the Code and have generally agreed not to take any action that would prevent the mergers from qualifying as a reorganization under Section 368(a) of the Code. For a more complete discussion of certain material U.S. federal income tax consequences of the mergers, see the section of this proxy statement/prospectus/consent solicitation entitled “Certain Material U.S. Federal Income Tax Consequences of the Mergers.”

Anticipated Accounting Treatment

Under ASC 805, the mergers are expected to be accounted for using acquisition accounting pursuant to which Altimmune is considered the acquiring entity for accounting purposes. As such, Altimmune expects to allocate the total purchase consideration to PharmAthene's tangible and identifiable intangible assets acquired and liabilities assumed based on their fair values at the date of the completion of the mergers.

Final valuations of PharmAthene's property, plant and equipment, and identifiable intangible and other assets acquired have not yet been completed as management is still reviewing the existence, characteristics and useful lives of PharmAthene's tangible and intangible assets. The completion of the valuation could result in significantly different amortization expenses and balance sheet classifications than those presented in the unaudited pro forma condensed combined financial information included in this prospectus/proxy statement/consent solicitation. After completion of the mergers, the results of operations of both PharmAthene and Altimmune will be included in the financial statements of Altimmune.

For further discussion of the accounting treatment, see the section of this this proxy statement/prospectus/consent solicitation entitled “Selected Historical and Unaudited Pro Forma Condensed Combined Financial Data.”

Appraisal Rights

PharmAthene

If the mergers are completed, PharmAthene stockholders are not entitled to appraisal rights under Section 262 of the DGCL.

Altimmune

If the mergers are completed, Altimmune stockholders who have not waived such rights are entitled to appraisal rights under Section 262, provided that they comply with the conditions established by Section 262.

This section is intended to provide a brief summary of the material provisions of the Delaware statutory procedures that a stockholder must follow in order to seek and perfect appraisal rights. However, this summary is not a complete statement of all applicable requirements, and it is qualified in its entirety by reference to the text of the relevant provisions of Delaware law, which are attached to this proxy statement/prospectus/consent solicitation as Annex G. The following summary does not constitute any legal or

other advice, nor does it constitute a recommendation that Altimmune stockholders exercise their appraisal rights under Section 262. Failure to follow precisely any of the statutory procedures set forth in Annex G may result in a termination or waiver of appraisal rights.

A record holder of shares of Altimmune capital stock who makes the demand described below with respect to such shares, who continuously holds such shares through the Effective Time, who submits a written demand for appraisal to Altimmune in compliance with the statutory requirements of Section 262, and who does not vote in favor of the mergers or consent thereto in writing will be entitled to an appraisal by the Delaware Court of Chancery of the fair value of his, her or its shares of Altimmune capital stock in lieu of the consideration that such stockholder would otherwise be entitled to receive pursuant to the Merger Agreement. All references in this summary of appraisal rights to a "stockholder" or "holders of shares of Altimmune capital stock" are to the record holder or holders of shares of Altimmune capital stock.

Under Section 262, because Altimmune is seeking the written consent of its stockholders to approve the mergers, Altimmune must notify each of the holders of its stock for whom appraisal rights are available that such appraisal rights are available and include in such notice a copy of Section 262. A copy of Section 262 is attached to this proxy statement/prospectus/consent solicitation as Annex G.

Altimmune stockholders who desire to exercise their appraisal rights must satisfy all of the conditions of Section 262. Those conditions include the following:

- Altimmune stockholders electing to exercise appraisal rights must not vote "for" the mergers by submitting a written consent in favor of the mergers, the Merger Agreement and related transactions. Voting "for" the mergers will result in the waiver of appraisal rights. Also, because a submitted written consent not marked "against" or "abstain" will be voted "for" the mergers, the submission of a written consent not marked "against" or "abstain" will result in the waiver of appraisal rights.
- Under Section 262, if the merger is accomplished pursuant to Section 228 of the DGCL, Altimmune, either before the effective date of the mergers or within 10 days after the effective date of the mergers, must notify each stockholder entitled to appraisal rights of the mergers and that appraisal rights are available to such stockholders and must include in each such notice a copy of Section 262. This S-4 does not constitute notice of appraisal rights for purposes of Section 262. Such notice will be sent to stockholders entitled to appraisal following stockholders' approval and adoption of the Merger Agreement.
- A written demand for appraisal of shares of Altimmune capital stock must be made to Altimmune within 20 days of the mailing of the notice of appraisal rights. The written demand for appraisal should reasonably inform Altimmune of the identity of the stockholders, including such stockholder's name and mailing address, and that such stockholder is thereby demanding appraisal of his, her or its shares of Altimmune capital stock. The written demand for appraisal of shares of Altimmune capital stock is in addition to and separate from a vote against the mergers or an abstention from such vote. Failure to return your written consent, voting against, or abstaining from voting on, the mergers will not constitute a written demand for appraisal. Failure to make a timely written demand for appraisal will constitute a waiver of appraisal rights.
- A demand for appraisal must be executed by or for the Altimmune stockholder of record, fully and correctly, as such stockholder's name appears on the stock certificate. If the shares are owned of record in a fiduciary capacity, such as by a trustee, guardian or custodian, this demand must be executed by or for the fiduciary. If the shares of Altimmune capital stock are owned by or for more than one person, as in a joint tenancy or tenancy in common, such demand must be executed by or for all joint owners. An authorized agent, including an agent for two or more joint owners, may execute the demand for appraisal for a Altimmune stockholder of record. However, the agent must identify such record holder and expressly disclose the fact that, in exercising the demand, he is acting as agent for such record holder. A person having a beneficial interest in Altimmune capital stock held of record in the name of another person, such as a broker or nominee, must act promptly to cause the record holder to follow the steps summarized below in a timely manner to perfect appraisal rights on behalf of the beneficial owners.

- An Altimmune stockholder who elects to exercise appraisal rights should mail or deliver his, her or its written demand to Altimmune by faxing it to (855) 557-1369, by emailing a .pdf copy of your written consent to consents@altimmune.com, or by mailing your written consent to 19 Firstfield Road, Gaithersburg, Maryland 20878.

Within 10 days after the Effective Time, Altimmune must provide notice of the Effective Time to all Altimmune stockholders who have not voted in favor of the merger; provided however, that if this notice is sent more than 20 days after the first notice of appraisal rights, such notice need only be sent to each stockholder who is entitled to appraisal rights and who has demanded appraisal of such holder's shares in accordance with Section 262.

Within 120 days after the Effective Time, either Altimmune or any Altimmune stockholder who has complied with the required conditions of Section 262 may file a petition in the Delaware Court of Chancery, with a copy served on Altimmune in the case of a petition filed by an Altimmune stockholder, demanding a determination of the fair value of the shares of Altimmune capital stock held by all Altimmune stockholders seeking to exercise appraisal rights. There is no present intent on the part of Altimmune to file an appraisal petition, and Altimmune stockholders seeking to exercise appraisal rights should not assume that Altimmune will file such a petition or that Altimmune will initiate any negotiations with respect to the fair value of such shares. Accordingly, Altimmune stockholders who desire to have their shares of Altimmune capital stock appraised should initiate any petitions necessary for the perfection of their appraisal rights within the time periods and in the manner prescribed in Section 262. Failure to file a petition for appraisal within the time period specified in Section 262 could result in a loss of appraisal rights.

Within 120 days after the Effective Time, any Altimmune stockholder who has satisfied the requirements of Section 262 will be entitled, upon written request, to receive from Altimmune a statement setting forth the aggregate number of shares of Altimmune common stock and Altimmune preferred stock not voting in favor of the mergers and with respect to which demands for appraisal were received by Altimmune and the aggregate number of holders of such shares. Such statement must be mailed within 10 days after the Altimmune stockholder's request has been received by Altimmune or within 10 days after the expiration of the period for the delivery of demands as described above, whichever is later. A person who is the beneficial owner of shares stock held in a voting trust or by a nominee on behalf of such person may, in such person's own name, file a petition in the Delaware Court of Chancery or request from Altimmune the statement described in the previous sentence.

If a petition for an appraisal is timely filed and a copy thereof is served upon Altimmune, Altimmune will then be obligated, within 20 days after such service, to file in the office of the Delaware Register in Chancery (the "Register") a duly verified list containing the names and addresses of all Altimmune stockholders who have demanded an appraisal of their shares of Altimmune capital stock and with whom agreements as to the value of such shares have not been reached. Upon notice to the Altimmune stockholders, as required by the Delaware Court of Chancery, at a hearing on such petition, the Delaware Court of Chancery will determine which Altimmune stockholders are entitled to appraisal rights. The Delaware Court of Chancery may require the Altimmune stockholders who have demanded an appraisal for their shares of Altimmune capital stock and who hold such stock represented by certificates to submit their certificates of stock to the Register for notation thereon of the pendency of the appraisal proceedings; and if any Altimmune stockholder fails to comply with such direction, the Delaware Court of Chancery may dismiss the proceedings as to such stockholder. Where proceedings are not dismissed, the Delaware Court of Chancery will appraise the shares of Altimmune capital stock owned by such stockholders, determining the fair value of such shares exclusive of any element of value arising from the accomplishment or expectation of the merger. When the fair value has been determined, the Delaware Court of Chancery will direct the payment of such value upon surrender by those stockholders of the certificates representing their shares of Altimmune capital stock. Unless the Delaware Court of Chancery in its discretion determines otherwise for good cause shown, interest from the Effective Time through the date of payment of the judgment will be compounded quarterly and will accrue at five percent over the Federal Reserve discount rate (including any surcharge) as established from time to time during the period between the Effective Time and the date of payment of the judgment. At any time before the entry of judgment in the proceedings, Altimmune may pay to each stockholder entitled to appraisal an amount in cash, in which case interest shall accrue thereafter as provided herein only upon the sum of

(1) the difference, if any, between the amount so paid and the fair value of the shares as determined by the Delaware Court of Chancery, and (2) interest theretofore accrued, unless paid at that time.

Although the Board of Directors of Altimmune believes that the merger consideration is fair, no representation is made as to the outcome of the appraisal of fair value as would be determined by the Delaware Court of Chancery, and Altimmune stockholders should recognize that such an appraisal could result in a determination of a value higher or lower than, or the same as, the consideration they would receive pursuant to the Merger Agreement. Moreover, Altimmune does not anticipate offering more than the merger consideration to any Altimmune stockholder exercising appraisal rights and reserves the right to assert in any appraisal proceeding, that, for purposes of Section 262, the "fair value" of a share of Altimmune capital stock is less than the merger consideration. In determining "fair value," the Delaware Court of Chancery is required to take into account all relevant factors. In *Weinberger v. UOP, Inc.*, the Delaware Supreme Court discussed the factors that could be considered in determining fair value in an appraisal proceeding, stating that "proof of value by any techniques or methods which are generally considered acceptable in the financial community and otherwise admissible in court" should be considered and that "fair price obviously requires consideration of all relevant factors involving the value of a company." The Delaware Supreme Court has stated that in making this determination of fair value, the court must consider market value, asset value, dividends, earnings prospects, the nature of the enterprise and any other facts which could be ascertained as of the date of the merger which shed any light on the future prospects of the merged corporation. Section 262 provides that fair value is to be "exclusive of any element of value arising from the accomplishment or expectation of the merger." In *Cede & Co. v. Technicolor, Inc.*, the Delaware Supreme Court stated that such exclusion is a "narrow exclusion that does not encompass known elements of value," but which rather applies only to the speculative elements of value arising from such accomplishment or expectation. In *Weinberger*, the Delaware Supreme Court also stated that "elements of future value, including the nature of the enterprise, which are known or susceptible of proof as of the date of the merger and not the product of speculation, may be considered." In addition, Delaware courts have decided that the statutory appraisal remedy, depending on factual circumstances, may or may not be a dissenting stockholder's exclusive remedy.

The cost of the appraisal proceeding, which does not include attorneys' or experts' fees, may be determined by the Delaware Court of Chancery and imposed upon the dissenting Altimmune stockholder(s) and/or Altimmune as the Delaware Court of Chancery deems equitable under the circumstances. Each dissenting Altimmune stockholder is responsible for his, her or its attorneys' and expert witness fees and expenses, although, upon application of a dissenting Altimmune stockholder, the Delaware Court of Chancery may order that all or a portion of the expenses incurred by any dissenting Altimmune stockholder in connection with the appraisal proceeding, including without limitation reasonable attorneys' fees and the fees and expenses of experts, be charged pro rata against the value of all shares of Altimmune capital stock entitled to appraisal.

Any Altimmune stockholder who has duly demanded appraisal in compliance with Section 262 will not, after the Effective Time, be entitled to vote for any purpose any shares of Altimmune capital stock subject to such demand or to receive payment of dividends or other distributions on such shares, except for dividends or distributions payable to Altimmune stockholders of record at a date prior to the Effective Time.

At any time within 60 days after the Effective Time, any Altimmune stockholder will have the right to withdraw his, her or its demand for appraisal and to accept the terms offered in the Merger Agreement. After this period, a Altimmune stockholder may withdraw his, her or its demand for appraisal and receive payment for his, her or its shares as provided in the Merger Agreement only with the consent of Altimmune. If no petition for appraisal is filed with the Delaware Court of Chancery within 120 days after the Effective Time, or if any Altimmune stockholder otherwise fails to perfect, successfully withdraws, or loses such holder's appraisal rights, then such stockholder's right to appraisal will cease and such stockholder's shares of Altimmune capital stock will be deemed to have been converted at the Effective Time into the right to receive the consideration that such Altimmune stockholder would otherwise be entitled to receive pursuant to the Merger Agreement. Inasmuch as Altimmune has no obligation to file such a petition, any Altimmune stockholder who desires a petition to be filed is advised to file it on a timely basis. Any Altimmune stockholder may withdraw such stockholder's demand for appraisal by delivering to Altimmune a written withdrawal of his, her or its demand for appraisal and acceptance of the merger consideration, except that

(i) any such attempt to withdraw made more than 60 days after the Effective Time will require written approval of Altimmune and (ii) no appraisal proceeding in the Delaware Court of Chancery will be dismissed as to any Altimmune stockholder who commenced or joined such proceeding as a named party without the approval of the Delaware Court of Chancery, and such approval may be conditioned upon such terms as the Delaware Court of Chancery deems just.

Failure by any Altimmune stockholder to comply fully with the procedures described above and set forth in Annex G to this proxy statement/prospectus/consent solicitation may result in the loss of such stockholder's appraisal rights. In view of the complexity of exercising appraisal rights under Delaware law, any Altimmune stockholder considering exercising these rights should consult with legal counsel.

THE MERGER AGREEMENT

This section describes the material terms of the Merger Agreement. The description in this section and elsewhere in this proxy statement/prospectus/consent solicitation is qualified in its entirety by reference to the complete text of the Merger Agreement, a copy of which is attached as Annex A and is incorporated by reference into this proxy statement/prospectus/consent solicitation. This summary does not purport to be complete and may not contain all of the information about the Merger Agreement that is important to you. You are encouraged to read the Merger Agreement carefully and in its entirety. This section is not intended to provide you with any factual information about PharmAthene or Altimmune. Such information can be found elsewhere in this proxy statement/prospectus/consent solicitation and in the public filings PharmAthene makes with the SEC, as described in the section entitled "Where You Can Find Additional Information" beginning on page 269 of this proxy statement/prospectus/consent solicitation.

Explanatory Note Regarding the Merger Agreement

The Merger Agreement is included to provide you with information regarding its terms. Factual disclosures about PharmAthene and Altimmune contained in this proxy statement/prospectus/consent solicitation or in the public reports of PharmAthene filed with the SEC and incorporated herein by reference may supplement, update or modify the factual disclosures about PharmAthene or Altimmune contained in the Merger Agreement. The representations, warranties and covenants made in the Merger Agreement by PharmAthene and Altimmune were qualified and subject to important limitations agreed to by PharmAthene and Altimmune in connection with negotiating the terms of the Merger Agreement. In particular, in your review of the representations and warranties contained in the Merger Agreement and described in this summary, it is important to bear in mind that the representations and warranties were negotiated with the principal purpose of establishing circumstances in which a party to the Merger Agreement may have the right not to consummate the mergers if the representations and warranties of the other party prove to be untrue due to a change in circumstance or otherwise, and allocating risk between the parties to the Merger Agreement, rather than establishing matters as facts. The representations and warranties also may be subject to a contractual standard of materiality different from that generally applicable to stockholders and reports and documents filed with the SEC and in some cases were qualified by the matters contained in the disclosure schedules that PharmAthene and Altimmune each delivered in connection with the Merger Agreement, which disclosures were not reflected in the Merger Agreement. Moreover, information concerning the subject matter of the representations and warranties, which do not purport to be accurate as of the date of this proxy statement/prospectus/consent solicitation, may have changed since the date of the Merger Agreement.

General

At the Effective Time, Merger Sub Corp, a direct wholly owned subsidiary of PharmAthene incorporated by PharmAthene in connection with the mergers, will merge with and into Altimmune, with Altimmune surviving such merger, and immediately thereafter, Altimmune will merge with and into Merger Sub LLC, a direct wholly owned subsidiary of PharmAthene formed by PharmAthene in connection with the mergers, with Merger Sub LLC as the surviving entity in such merger. Following the consummation of the mergers, PharmAthene will change its name to "Altimmune, Inc."

Effective Time of the Mergers

The parties are required to consummate the mergers no later than three business days after all of the conditions to the consummation of the mergers contained in the Merger Agreement are satisfied or waived, including the adoption and the approval of the Merger Agreement by Altimmune's stockholders and the approval by PharmAthene's stockholders of the Merger Agreement and the issuance of PharmAthene common stock, or such other date as PharmAthene and Altimmune may mutually agree in writing. The mergers will become effective upon the filing of the certificate of merger with respect to each of Merger 1 and Merger 2 with the Secretary of State of the State of Delaware, or at such later time as is agreed by PharmAthene and Altimmune and specified in the respective certificates of merger. Neither PharmAthene nor Altimmune can predict the exact timing of the consummation of the mergers.

Merger Consideration

At the Effective Time, each outstanding share of Altimmune's common stock and preferred stock (excluding the following shares which we refer to as the "excluded shares": shares owned (i) as treasury

stock of Altimmune, (ii) by PharmAthene or its subsidiaries, or (iii) by Altimmune stockholders who have validly exercised appraisal rights or dissenters' rights in accordance with Section 262 of the DGCL (the "dissenting stockholders")) will be converted into the right to receive a number of shares of PharmAthene common stock such that the holders of outstanding equity of Altimmune immediately prior to the Effective Time will own 58.2% of the outstanding equity of PharmAthene immediately following the Effective Time and holders of outstanding equity of PharmAthene immediately prior to the Effective Time will own 41.8% of the outstanding equity of PharmAthene immediately following the Effective Time, in each case, on a fully diluted basis.

At the Effective Time, ten percent of the shares of PharmAthene common stock issuable to the stockholders of Altimmune at the Effective Time will be deposited with Continental Stock Transfer & Trust Company, as escrow agent under a separate escrow agreement to be entered into prior to the completion of the mergers. These Escrow Shares will be held in escrow for a period of twelve months after the closing date and will serve to secure the sole source of Altimmune's stockholders' indemnification obligations under the Merger Agreement. The escrow agreement and the Escrow Shares are described in further detail below under "— Indemnification Obligations."

Fractional Shares

No fractional shares of PharmAthene common stock will be issued to Altimmune's stockholders pursuant to the mergers. Instead, any fractional shares of PharmAthene common stock that would be issuable to Altimmune stockholders pursuant to the mergers will be rounded up to the next whole share.

Treatment of Options and Warrants

At the Effective Time, each outstanding option to purchase shares of Altimmune common stock, whether vested or unvested, will be converted into an option to acquire, on the same terms and conditions as were applicable under such option immediately prior to the Effective Time, a number of shares of PharmAthene common stock equal to the product (rounded down to the nearest whole number) of: (i) the number of shares of Altimmune common stock subject to such option immediately prior to the Effective Time and (ii) the Exchange Ratio, at an exercise price per share (rounded up to the nearest whole cent) equal to the result obtained by dividing (A) the exercise price per share of Altimmune common stock subject to such option immediately prior to the Effective Time by (B) the Exchange Ratio. At the Effective Time, Altimmune's 2001 Employee Stock Option Plan and its Non-Employee Stock Option Plan, each as amended from time to time, will be assumed by PharmAthene.

At the Effective Time, each outstanding warrant to purchase one share of Altimmune common stock will be converted into an option or warrant, as the case may be, to purchase a number of shares of PharmAthene common stock representing the number of Altimmune shares for which the exchanged option or warrant was exercisable multiplied by the Exchange Ratio. The exercise prices of Altimmune warrants will be proportionately adjusted.

Exchange of Stock Certificates

At the Effective Time, PharmAthene will deposit with Continental Stock Transfer and Trust Company, the (the "Exchange Agent"), stock certificates or book-entry shares representing the shares of PharmAthene common stock issuable to the Altimmune stockholders in the mergers, less the Escrow Shares.

Within five business days of the Effective Time, the Exchange Agent will mail a letter of transmittal to each holder of record of a certificate representing shares of Altimmune common stock and preferred stock converted pursuant to the Merger Agreement along with instructions for surrendering and exchanging the record holder's Altimmune stock certificates for shares of PharmAthene common stock. Upon surrender of a Altimmune stock certificate for exchange to the Exchange Agent, together with a duly signed letter of transmittal and such other documents as the Exchange Agent may reasonably require, the Altimmune stock certificate surrendered will be cancelled and the holder of the Altimmune stock certificate will be entitled to receive the following:

- a certificate or book-entry shares representing the number of whole shares of PharmAthene common stock that such holder has the right to receive pursuant to the provisions of the Merger Agreement;

- dividends or other distributions, if any, declared or made with respect to PharmAthene common stock with a record date after the Effective Time; and

If any Altimmune stock certificate has been lost, stolen or destroyed, PharmAthene may, in its discretion, and as a condition to the delivery of any shares of PharmAthene common stock, require the owner of such lost, stolen or destroyed certificate to deliver an affidavit claiming such certificate has been lost, stolen or destroyed, along with a bond.

From and after the Effective Time, until it is surrendered, each certificate that previously evidenced Altimmune stock will be deemed to represent only the right to receive shares of PharmAthene common stock. PharmAthene will not pay dividends or other distributions on any shares of PharmAthene common stock to be issued in exchange for any unsurrendered Altimmune stock certificate until the Altimmune stock certificate is surrendered as provided in the Merger Agreement.

Indemnification Obligations

The Altimmune stockholders will indemnify and hold harmless PharmAthene and its directors, officers, stockholders, employees, agents, subsidiaries and affiliates, and will reimburse such persons for, any loss, liability, damage or expense, including reasonable out-of-pocket costs of investigation and defense of claims and reasonable attorneys' fees and expenses incurred by such persons arising out of any breach of any representation, warranty covenant, or agreement of Altimmune in the Merger Agreement for a period of twelve months after the closing date of the mergers. The indemnification obligations will not apply to any individual claim for a loss that is less than $50,000, and unless each such individual loss in excess of $50,000 exceeds $1.0 million in the aggregate, in which event the Altimmune stockholders will be liable for all losses from the first dollar in excess of $1.0 million. Such deductible threshold may be increased from $1.0 million to $2.0 million under certain circumstances.

At the Effective Time, ten percent of the shares of PharmAthene common stock issuable to the stockholders of Altimmune will be deposited with Continental Stock Transfer and Trust Company, as escrow agent under a separate escrow agreement to be entered into prior to the completion of the mergers. These Escrow Shares will serve to secure the Altimmune's stockholders' indemnification obligations under the Merger Agreement. No Altimmune stockholder will be liable for any losses in excess of their *pro rata* share of the Escrow Shares.

Neither PharmAthene nor the surviving subsidiary will have any obligation to indemnify the Altimmune stockholders for any breach of any representation or warranty made by, or any covenant or agreement of, PharmAthene, Merger Sub Corp or Merger Sub LLC under the Merger Agreement.

Dissenters' Rights

No dissenting stockholders will be entitled to receive shares of PharmAthene common stock or other distributions, unless and until such holder has failed to perfect or has effectively withdrawn or lost such holder's right to dissent from the mergers under Delaware law. Dissenting stockholders will be entitled to receive only the payment provided by Section 262 of the DGCL with respect to their shares of Altimmune common stock or preferred stock. Once a dissenting stockholder has failed to properly perfect or has effectively withdrawn or lost the right to dissent with respect to any shares of Altimmune common stock or preferred stock, such shares will be converted into the merger consideration.

Directors and Executive Officers of PharmAthene following the Mergers

Following the mergers, the combined company's Board of Directors will consist of three directors designated by PharmAthene and four directors designated by Altimmune. Those members designated by PharmAthene will initially be Mitchel Sayare, Derace L. Schaffer and John M. Gill and those members initially designated by Altimmune will be William Enright, David J. Drutz, Philip Hodges and Klaus Schafer.

Effective as of the Effective Time, PharmAthene's executive officers will be William Enright (Chief Executive Officer), Elizabeth A. Czerepak (Chief Financial Officer), M. Scot Roberts, Ph.D. (Chief Scientific Officer) and Sybil Tasker, M.D. (Senior Vice President of Clinical Research and Development). Additionally, Bertrand Georges, Ph.D. will serve as Chief Technology Officer.

Representations and Warranties

The Merger Agreement contains customary representations and warranties of PharmAthene and Altimmune for a transaction of this type relating to, among other things:

- corporate organization and power and similar corporate matters;
- ownership of subsidiaries;
- authorized and outstanding capital stock, options and warrants;
- authority to enter into the Merger Agreement and the related agreements;
- approval by the Board of Directors;
- any conflicts or violations of each party's agreements as a result of the mergers or the Merger Agreement;
- financial statements and, with respect to PharmAthene, documents filed with the SEC and the accuracy of information contained in those documents;
- with respect to PharmAthene, disclosure controls and procedures;
- material changes or events;
- title of assets;
- ownership of real property and leasehold interests;
- ownership of intellectual property;
- the validity of material contracts to which the parties or their subsidiaries are a party and any violation, default or breach to such contracts;
- any undisclosed liabilities;
- compliance with legal requirements;
- compliance with environmental laws;
- employee benefits and related matters;
- litigation matters;
- accuracy of the information provided by such party to be included in this proxy statement/prospectus/consent solicitation;
- filing of tax returns and payment of taxes;
- employee relations matters;
- votes required for completion of the mergers and approval of the proposals that will come before each of the PharmAthene special meeting and the Altimmune written stockholder consent;
- absence of provision in governing law or documents that would prohibit or restrict the ability of such party to consummate the mergers or of the stockholders of such party who are party to such party's voting agreement to perform their respective obligations thereunder;
- any brokerage or finder's fee or other fee or commission in connection with the mergers;
- insurance policies, policy cancellations and claims;
- transactions with affiliates;
- illegal payments;
- regulatory compliance; and

- the validity of governmental contracts to which such parties or their subsidiaries are party and any violation, default or breach to such contracts.

The representations and warranties are, in many respects, qualified by materiality and knowledge, and, in the case of PharmAthene, will not survive the mergers, but their accuracy forms the basis of one of the conditions to the obligations of PharmAthene and Altimmune to complete the mergers.

Covenants; Conduct of Business Pending the Mergers

PharmAthene and Altimmune each agreed that it will conduct its business in the ordinary course in accordance with past practices. Altimmune agreed to use commercially reasonable efforts to preserve substantially intact its current business organization, keep available the services of its current key employees, officers and other employees and to maintain its relations with all suppliers, customers, landlords, creditors, licensors, licensees, distributors and others having significant business dealings with it, and to take other agreed upon actions.

In addition, PharmAthene agreed that, subject to certain limited exceptions and except as contemplated by the Merger Agreement, without the consent of the other party, it would not, during the period prior to closing of the mergers:

- declare, accrue, set aside or pay any dividend or make any other distribution in respect of any shares of capital stock that would result in PharmAthene not having at least approximately $10.25 million of net cash as of closing;
- sell, issue or grant, or authorize the issuance of, or make any commitments to do any of the foregoing: (i) any capital stock or other security, (ii) any option, warrant or right to acquire any capital stock or any other security, or (iii) any instrument convertible into or exchangeable for any capital stock or other security;
- amend the certificate of incorporation, bylaws or other charter or organizational documents of PharmAthene or any subsidiary of PharmAthene, or be a party to any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction;
- form any new subsidiary or acquire any equity interest or other interest in any other person;
- lend money to any person; incur or guarantee any indebtedness for borrowed money; issue or sell any debt securities or options, warrants, calls or other rights to acquire any debt securities; or guarantee any debt securities of others;
- make any capital expenditure or commitment in excess of $100,000;
- other than in the ordinary course of business: (i) adopt, establish or enter into any employee program, (ii) cause or permit any employee program to be amended, (iii) hire any new employee or consultant, (iv) grant, make or pay (or agree to pay) any severance, retention, change in control, bonus or profit-sharing or similar payment to, or increase the amount of the wages, salary, commissions, fringe benefits or other compensation or remuneration payable to, any of its directors, employees or consultants (other than any payment which is (x) to be paid prior or in connection with the closing and (y) which would not cause the net cash condition to be unsatisfied as of closing), or (v) accelerate the time of payment or vesting of any benefits or compensation to any of its directors, employees or consultants;
- acquire any material asset or sell, lease or otherwise irrevocably dispose of any of its material assets or properties, grant any encumbrance with respect to such assets or properties, except in the ordinary course of business;
- make, change or revoke any material tax election; file any material amendment to any tax return; adopt or change any material accounting method in respect of taxes; change any annual tax accounting period; enter into any tax allocation agreement, tax sharing agreement or tax indemnity agreement, other than commercial contracts entered into in the ordinary course of business and the primary purpose of which does not relate to taxes; enter into any closing agreement with respect to

any material tax liability; settle or compromise any claim, notice, audit report or assessment in respect of any material tax liability; apply for or enter into any ruling from any tax authority with respect to taxes; surrender any right to claim a refund of a material amount of taxes; or consent to any extension or waiver of the statute of limitations period applicable to any material tax claim or assessment;

- enter into, amend or terminate any material contract, or amend or terminate any material permit, or apply for any new material permit with respect to the PharmAthene's product candidates;
- commence a lawsuit other than (i) for routine collection of bills, (ii) in such cases as PharmAthene in good faith determines that failure to commence such lawsuit would result in the material impairment of a valuable aspect of PharmAthene's and/or any subsidiary of PharmAthene's business, or (iii) for a breach of the Merger Agreement;
- fail to make any material payment with respect to any of PharmAthene's accounts payable or indebtedness in a timely manner in accordance with the terms thereof and consistent with past practices;
- hire any employees or engage any independent contractors, consultants or other part time workers;
- incur any liability not expressly permitted pursuant under the Merger Agreement, other than in the ordinary course of business;
- after the net cash schedule has been finalized, incur any liability in excess of $100,000 or otherwise take or omit to take any action so as to cause the final net cash calculation to differ materially from actual net cash as of the closing; or
- agree in writing to take, take or permit any subsidiary of PharmAthene to take or agree to take, any of the actions specified above.

In addition, Altimmune further agreed that, subject to certain limited exceptions and except as contemplated by the Merger Agreement, without the consent of the other party, it would not, during the period prior to closing of the mergers:

- declare, accrue, set aside or pay any dividend or make any other distribution in respect of any shares of capital stock; or repurchase, redeem or otherwise reacquire any shares of capital stock or other securities;
- sell, issue or grant, or authorize the issuance of, or make any commitments to do any of the foregoing (i) any capital stock or other security, (ii) any option, warrant or right to acquire any capital stock or any other security, or (iii) any instrument convertible into or exchangeable for any capital stock or other security;
- amend the certificate of incorporation, bylaws or other charter or organizational documents of Altimmune or any subsidiary of Altimmune, or be a party to any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction or the Altimmune Financing Agreement;
- form any subsidiary or acquire any equity interest or other interest in any other person;
- lend money to any person; incur or guarantee any indebtedness for borrowed money; issue or sell any debt securities or options, warrants, calls or other rights to acquire any debt securities; guarantee any debt securities of others; or make any capital expenditure or commitment in excess of $100,000;
- make any capital expenditure or commitment in excess of $100,000;
- other than in the ordinary course of business: (i) adopt, establish or enter into any employee program, (ii) cause or permit any employee program to be amended, (iii) hire any new employee or consultant, (iv) grant, make or pay (or agree to pay) any severance, retention, change in control, bonus or profit-sharing or similar payment to, or increase the amount of the wages, salary,

commissions, fringe benefits or other compensation or remuneration payable to, any of its directors, employees or consultants, (v) accelerate the time of payment or vesting of any benefits or compensation to any of its directors, employees or consultants;

- acquire any material asset nor sell, lease or otherwise irrevocably dispose of any of its material assets or properties, nor grant any encumbrance with respect to such assets or properties, except in the ordinary course of business;
- make, change or revoke any material tax election; file any material amendment to any tax return; adopt or change any material accounting method in respect of taxes; change any annual tax accounting period; enter into any tax allocation agreement, tax sharing agreement or tax indemnity agreement, other than commercial contracts entered into in the ordinary course of business and the primary purpose of which does not relate to taxes; enter into any closing agreement with respect to any material tax liability; settle or compromise any claim, notice, audit report or assessment in respect of any material tax liability; apply for or enter into any ruling from any tax authority with respect to taxes; surrender any right to claim a refund of a material amount of taxes; or consent to any extension or waiver of the statute of limitations period applicable to any material tax claim or assessment;
- enter into, amend or terminate any material contract, or amend or terminate any material permit, or apply for any new material permit with respect to the Altimmune product candidates;
- commence a lawsuit other than: (i) for routine collection of bills, (ii) in such cases as Altimmune in good faith determines that failure to commence such lawsuit would result in the material impairment of a valuable aspect of Altimmune and/or any subsidiary of Altimmune's business, or (iii) for a breach of the Merger Agreement;
- fail to make any material payment with respect to any of Altimmune's accounts payable or indebtedness in a timely manner in accordance with the terms thereof and consistent with past practices;
- hire any employees or engage any independent contractors, consultants or other part time workers;
- incur any liability not expressly permitted pursuant under the Merger Agreement, other than in the ordinary course of business; or
- agree to take or take any of the actions specified above.

No Solicitation

Altimmune

Altimmune agreed that, except as described below, it will not, and will not permit any of its subsidiaries, or authorize or permit any of its or their officers, directors, employees, or other agents to, directly or indirectly:

- solicit, initiate, or knowingly encourage the submission of any inquiries concerning, or the making of any proposal or offer that constitutes, or could reasonably be expected to lead to, an Altimmune takeover proposal, as defined in the Merger Agreement and summarized below;
- provide any non-public information regarding Altimmune or its subsidiaries to any third party or engage in any negotiations or discussions in connection with or for the purpose of encouraging any Altimmune takeover proposal or otherwise knowingly cooperate with or assist or participate in or knowingly encourage any such negotiations or discussions;
- enter into any agreement, letter of intent, memorandum of understanding, agreement in principle, acquisition agreement, merger agreement or other similar instrument with respect to any Altimmune takeover proposal or enter into any agreement in principle requiring Altimmune to abandon, terminate or fail to consummate the mergers;

- take any action to make the provisions of any takeover statute or any similar provision contained in the organizational documents of Altimmune inapplicable to any transactions contemplated by an Altimmune takeover proposal;
- amend, or grant a waiver or release under, any standstill or similar agreement with respect to any capital stock of Altimmune; or
- agree or publicly announce any intention to take any of the foregoing actions.

An Altimmune takeover proposal means any proposal or offer from any person or group relating to any of the following:

- A merger, tender offer, recapitalization, reorganization, business combination, liquidation, dissolution, share exchange, arrangement or consolidation or any similar transaction involving Altimmune or any of its subsidiaries, in each case that does not include PharmAthene following the mergers contemplated by the Merger Agreement;
- A sale, lease, exchange, mortgage, pledge, transfer or other acquisition of fifteen percent (15%) or more of the assets of Altimmune or any of its subsidiaries, including pursuant to a license or joint venture or to which fifteen (15%) or more of the Altimmune's revenues or earnings are attributable;
- An issuance by Altimmune of securities representing fifteen percent (15%) or more of the voting power of Altimmune; or
- A purchase, tender offer or other acquisition, including by way of merger, consolidation, share exchange, arrangement, consolidation or otherwise, of beneficial ownership of securities representing fifteen percent (15%) or more of the voting power of Altimmune.

Subject to certain exceptions described below, the Altimmune Board of Directors and committee thereof may not:

- fail to make, withhold, withdraw, qualify, amend, change or resolve or publicly propose or announce its intention to withhold, withdraw, qualify, amend or change in a manner adverse to PharmAthene, the Altimmune board recommendation;
- fail to recommend against acceptance of a tender or exchange offer within ten (10) business days after commencement;
- adopt, approve, endorse, recommend or declare advisable, or resolve or publicly propose to or announce its intention to adopt, approve, endorse, recommend or declare advisable, any Altimmune takeover proposal; or
- make any public statement inconsistent with the Altimmune board recommendation.

Altimmune will promptly (and, in any event, within 24 hours) notify PharmAthene if any bona fide inquiries, proposals or offers with respect to an Altimmune takeover proposal are received by, any non-public information is requested in connection with any acquisition proposal from, or any discussions or negotiation with respect to an acquisition proposal are sought to be initiated or continued with, it, its subsidiaries or any of their respective representatives.

Notwithstanding the foregoing, if the Altimmune Board of Directors reasonably determines in good faith, after consultation with its outside counsel and its outside financial advisor, that failing to take the following would be a breach of its fiduciary duties under applicable law, the Altimmune Board of Directors may, at any time prior to obtaining the required Altimmune stockholder approval:

- withdraw its recommendation that Altimmune consummate the mergers; and
- engage in discussions with any third party making an unsolicited Altimmune takeover proposal if (x) the Altimmune Board of Directors determines that such discussions are required under applicable laws to permit the Board of to make a fully informed decision with respect to whether or

not to effect a change of recommendation and (y) the Altimmune Board of Directors, upon the advice of outside legal counsel, will have determined that such discussions are required to comply with its fiduciary duties under applicable laws.

Even if the Altimmune Board of Directors withdraws its recommendation that Altimmune consummate the mergers, Altimmune is required to submit the proposals to its stockholders for the purpose of approving and adopting the Merger Agreement and the mergers.

PharmAthene

PharmAthene agreed that, except as described below, it will not, and will not permit any of its subsidiaries, or authorize or permit any of its or their officers, directors, employees, or other agents to, directly or indirectly:

- solicit, initiate, or knowingly encourage the submission of any inquiries concerning, or the making of any proposal or offer that constitutes, or could reasonably be expected to lead to, a PharmAthene takeover proposal, as defined in the Merger Agreement and summarized below;
- provide any non-public information regarding PharmAthene or its subsidiaries to any third party or engage in any negotiations or discussions in connection with or for the purpose of encouraging any PharmAthene takeover proposal or otherwise knowingly cooperate with or assist or participate in or knowingly encourage any such negotiations or discussions;
- enter into any agreement, letter of intent, memorandum of understanding, agreement in principle, acquisition agreement, merger agreement or other similar instrument with respect to any PharmAthene takeover proposal or enter into any agreement in principle requiring PharmAthene to abandon, terminate or fail to consummate the mergers;
- take any action to make the provisions of any takeover statute or any similar provision contained in the organizational documents of PharmAthene inapplicable to any transactions contemplated by a PharmAthene takeover proposal;
- amend, or grant a waiver or release under, any standstill or similar agreement with respect to any capital stock of PharmAthene; and
- agree or publicly announce any intention to take any of the foregoing actions.

However, if before obtaining the applicable PharmAthene stockholder approval required to consummate the mergers the PharmAthene Board of Directors makes a timely determination that, as a result of a PharmAthene takeover proposal, it is required in order to comply with its fiduciary duties under applicable laws, PharmAthene or its representatives may furnish nonpublic information regarding such party and its subsidiaries to, and may enter into negotiations or discussions with, any third party making such PharmAthene takeover proposal made or received after the date of the Merger Agreement and its representatives and financing sources, if:

- PharmAthene's Board of Directors determines in good faith, after consultation with its outside financial advisor and its legal counsel, that such PharmAthene takeover proposal constitutes or would reasonably be expected to result in a PharmAthene superior offer, as is defined in the Merger Agreement and summarized below;
- the PharmAthene takeover proposal was not solicited in violation of the provisions described above;
- PharmAthene gives Altimmune prior written notice of its intention to furnish information to, or enter into discussions with, such person before furnishing any information or entering into discussions with such person;
- prior to the furnishing of any nonpublic information to the person making the PharmAthene takeover proposal, PharmAthene furnishes the same nonpublic information to Altimmune to the extent not previously furnished; and

- the PharmAthene Board of Directors of determines in good faith, after consultation with its outside legal counsel and financial advisors, that taking such actions would be required to comply with the fiduciary duties of the PharmAthene Board of Directors under applicable laws.

A PharmAthene takeover proposal means any proposal or offer from any person relating to any of the following:

- any direct or indirect acquisition or purchase (including any sale, lease, exchange, transfer or license) of a business or assets that constitutes 50% or more of the net revenues, net income or the assets of PharmAthene and its subsidiaries on a consolidated basis;
- any direct or indirect acquisition or purchase of 50% or more of the equity capital stock of PharmAthene or any of its subsidiaries;
- tender offer or exchange offer that if consummated would result in any person beneficially owning 50% of the equity capital stock of PharmAthene or any of its subsidiaries; or
- merger, consolidation, business combination, recapitalization, liquidation, dissolution or similar transaction involving PharmAthene or any of its subsidiaries, in each case that does not include Altimmune following the mergers contemplated by the Merger Agreement.

A PharmAthene superior offer means an unsolicited bona fide PharmAthene takeover proposal made by a third party that the Board of Directors of PharmAthene determines in good faith, after consultation with its outside legal counsel and financial advisor, and after taking into account any other factors determined by the PharmAthene Board of Directors to be relevant:

- is more favorable from a financial point of view to the PharmAthene stockholders than as provided under the Merger Agreement;
- is not subject to any financing condition (and if financing is required, such financing is then fully committed to the third party);
- is reasonably capable of being completed on the terms proposed without unreasonable delay; and
- includes termination rights exercisable by the PharmAthene on terms no less favorable to the PharmAthene than the terms set forth in the Merger Agreement, all from a third party capable of performing such terms.

PharmAthene will promptly (and, in any event, within 24 hours) notify Altimmune if any bona fide inquiries, proposals or offers with respect to a PharmAthene takeover proposal are received by, any non-public information is requested in connection with any PharmAthene takeover proposal from, or any discussions or negotiation with respect to PharmAthene takeover proposal are sought to be initiated or continued with, it, its subsidiaries or any of their respective representatives.

Subject to certain exceptions described below, the PharmAthene Board of Directors and committee thereof may not:

- fail to make, withhold, withdraw, qualify, amend, change or resolve or publicly propose or announce its intention to withhold, withdraw, qualify, amend or change in a manner adverse to Altimmune, the PharmAthene Board of Directors recommendation;
- fail to recommend against acceptance of a tender or exchange offer within ten (10) business days after commencement;
- adopt, approve, endorse, recommend or declare advisable, or resolve or publicly propose to or announce its intention to adopt, approve, endorse, recommend or declare advisable, any PharmAthene takeover proposal; or
- make any public statement inconsistent with the PharmAthene Board of Directors recommendation.

However, at any time before the PharmAthene stockholder approval is obtained, if the PharmAthene Board of Directors determines in good faith, after consultation with its outside legal counsel and financial

advisors, that such action is required to comply with its fiduciary duties under applicable laws based upon the receipt of a PharmAthene takeover proposal after the date hereof that has not been withdrawn that the PharmAthene Board of Directors determines in good faith, after consultation with outside legal counsel and financial advisors, constitutes a PharmAthene superior offer, the PharmAthene Board of Directors may do either or both of the following:

- make a change in recommendation; or
- effect a superior proposal termination.

However, the PharmAthene Board of Directors is in no event permitted to take, or agree or resolve to take, any action other than in compliance with the applicable provision of the Merger Agreement. Additionally, the PharmAthene Board of Directors may not make a change in recommendation and/or effect a superior proposal termination until after at least four business days following Altimmune's receipt of written notice from PharmAthene advising that the PharmAthene Board of Directors intends to take such action and the basis for doing so, including all information required to be provided under the Merger Agreement and in the case of a change in recommendation not related to a superior proposal, all material information related thereto. After providing such notice and prior to effecting such change in recommendation and/or terminating the Merger Agreement for a superior proposal:

- PharmAthene must, during such five business day period negotiate in good faith with Altimmune and its representatives with respect to any revisions to the terms of the transaction contemplated by the agreement proposed by Altimmune; and
- in determining whether to make a change in recommendation and/or effect a superior proposal termination, the PharmAthene Board of Directors must take into account any changes to the terms of the Merger Agreement proposed by Altimmune and any other information provided by Altimmune in response to such notice during such four business day period.

Any amendment to the financial terms or other material terms of any PharmAthene takeover proposal will be deemed to be a new PharmAthene takeover proposal except that the four business day notice period for such new acquisition proposal will be two business days for such purposes.

The PharmAthene Board of Directors is required to recommend in this this proxy statement/prospectus/consent solicitation and at the PharmAthene special meeting that PharmAthene's stockholders adopt the Merger Agreement, subject to the fiduciary exceptions in the Merger Agreement.

PharmAthene Stockholder Approval

PharmAthene is obligated under the Merger Agreement to take all action necessary in accordance with the DGCL and PharmAthene's Certificate of Incorporation and Bylaws to call, give notice of and hold a special meeting of its stockholders for the purposes of considering (i) the adoption and approval of the Merger Agreement, (ii) the mergers, (iii) the issuance of shares of PharmAthene common stock in the mergers, (iv) the new equity incentive plan described under the section of this proxy statement/prospectus/consent solicitation entitled “Matters Being Submitted to a Vote of PharmAthene Stockholders — PharmAthene Proposal No. 4 — Approval of the 2017 Omnibus Incentive Plan,” and (v) the amendment to the PharmAthene Certificate of Incorporation to effect the Reverse Split described under the section of this proxy statement/prospectus/consent solicitation entitled “Matters Being Submitted to a Vote of PharmAthene Stockholders — PharmAthene Proposal No. 3 — Approval of Charter Amendment for a Reverse Stock Split,” as promptly as reasonably practicable after the mailing of this proxy statement/prospectus/consent solicitation.

Altimmune Stockholder Approval

Altimmune is obligated under the Merger Agreement to obtain written consent of its stockholders sufficient to adopt and approve the Merger Agreement. Altimmune has agreed to take all action necessary in accordance with the DGCL and the Altimmune Certificate of Incorporation and Bylaws to solicit approval by written consent from Altimmune's stockholders promptly after the effective date of the registration statement of which this proxy statement/prospectus/consent solicitation forms a part.

Conditions to Completion of the Mergers

Each party's obligation to complete the mergers is subject to the satisfaction or waiver by each of the parties, at or before the Effective Time, of various conditions, which include the following:

- there must not be any law, judgment, injunction, order or decree by any court or other tribunal of competent jurisdiction that prohibits the consummation of the mergers;
- stockholders of Altimmune must have approved and adopted the Merger Agreement and the mergers;
- stockholders of PharmAthene must have approved and adopted the Merger Agreement, the mergers, issuance of PharmAthene common stock in the mergers and an amendment to PharmAthene's certificate of incorporation to effect the Reverse Split; and
- the registration statement on Form S-4, of which this proxy statement/prospectus/consent solicitation is a part, must have been declared effective by the SEC in accordance with the Securities Act and must not be subject to any stop order or proceeding, or any proceeding threatened by the SEC, seeking a stop order.

In addition, each party's obligation to complete the mergers is further subject to the satisfaction or waiver by that party of the following additional conditions:

- representations and warranties of the other party in the Merger Agreement must be true and correct on the date of the Merger Agreement and on the closing date of the mergers with the same force and effect as if made on the date on which the mergers are to be completed or, if such representations and warranties address matters as of a particular date, then as of that particular date, except where the failure of these representations and warranties to be true and correct, would not reasonably be expected to have a material adverse effect on the party making the representations and warranties;
- the other party to the Merger Agreement must have performed or complied with in all material respects all obligations and agreements required to be performed or complied with by it on or before the closing of the mergers; and
- the other party must have delivered certain certificates and other documents required under the Merger Agreement for the closing of the mergers, including the escrow agreement.

In addition, the obligation of PharmAthene to complete the mergers is further subject to the satisfaction or waiver of the following conditions:

- after the date of the Merger Agreement, there must not have occurred any change, effect, circumstance or development that, individually or in the aggregate, has or would reasonably be likely to result in an Altimmune material adverse effect;
- $3.5 million of capital committed to Altimmune will have been received by Altimmune in the Altimmune Private Placement;
- the total amount of indebtedness and certain outstanding specified liabilities of Altimmune as of the Effective Time, will not exceed $2.5 million and all excess indebtedness and liabilities of Altimmune will have been repaid, settled or extinguished; and
- PharmAthene and Altimmune will have agreed in good faith on a final flu clinical development plan in accordance with the terms of the Merger Agreement.

In addition, the obligation of Altimmune to complete the mergers is further subject to the satisfaction or waiver of the following conditions:

- after the date of the Merger Agreement, there must not have occurred any change, effect, circumstance or development that, individually or in the aggregate, has or would reasonably be likely to result in a PharmAthene material adverse effect;
- the net cash of PharmAthene will not be less than $10.25 million;

- the shares of PharmAthene common stock to be issued in the mergers must be approved for listing on NYSE MKT, subject to official notice of issuance;
- there will not have been any change in law which is more likely than not to have the effect of making the mergers, together with the issuance of shares by PharmAthene to the Altimmune stockholders, not qualify as a "reorganization" within the meaning of Section 368(a) of the Code; and
- PharmAthene will have filed all U.S. tax returns and all state tax returns for income taxes required to be filed for the 2016 taxable year (regardless of when such tax returns are actually due), and will have paid all such income taxes shown as due such tax returns.

Termination

The Merger Agreement may be terminated at any time before the completion of the mergers, as set forth below:

- by mutual written consent of each of PharmAthene and Altimmune;
- by either PharmAthene or Altimmune if the mergers have not been completed by June 30, 2017, but this right to terminate the Merger Agreement will not be available to any party whose action or failure to act has been a principal cause of the failure of the mergers to occur on or before such date and such action or failure to act constitutes a breach of the Merger Agreement;
- by PharmAthene or Altimmune if a governmental entity of competent jurisdiction has issued a final and nonappealable injunction, order, decree or ruling that permanently restrains, enjoins or otherwise prohibits the mergers, but this right to terminate will not be available to any party whose material breach of a representation, warranty, covenant, or agreement has been the principal cause of the entry of such final and non-appealable injunction, order, decree or ruling;
- by PharmAthene if a court of competent jurisdiction will have issued an order, decree or ruling that restrains, enjoins or otherwise prohibits the mergers on the grounds that it violates the terms of the DGCL in response to any action initiated by any stockholder of Altimmune and such order, decree or ruling, or other action has not been reversed prior to June 30, 2017;
- by either PharmAthene or Altimmune if the stockholders of PharmAthene have not approved the issuance of the shares pursuant to the Merger Agreement at the PharmAthene special meeting or any adjournments or postponements thereof, but PharmAthene may not terminate the Merger Agreement pursuant to this provision if the failure to obtain the approval of PharmAthene stockholders was caused by the action or failure to act of PharmAthene;
- by Altimmune if at any time prior to PharmAthene stockholder approval:
  - PharmAthene makes a change of recommendation;
  - PharmAthene fails to include its recommendation in this proxy statement/prospectus/consent solicitation;
  - The PharmAthene Board of Directors fails to publicly recommend against any PharmAthene takeover proposal within ten business days of the request to do so or fails to reaffirm the PharmAthene recommendation within ten days of Altimmune's request to do so;
  - PharmAthene breaches in any material respect any of its covenants or obligations under the Merger Agreement;
- by Altimmune if PharmAthene has breached or failed to perform any of its representations, warranties, covenants or agreements contained in the Merger Agreement or if any representation or warranty of PharmAthene has become untrue as of any date subsequent to the Merger Agreement, in either case such that the conditions to the closing of the mergers would not be satisfied as of time of such breach or inaccuracy, but if such breach or inaccuracy is curable, then the Merger Agreement will not terminate pursuant to this provision as a result of a particular breach unless such breach or failure is not cured by the thirtieth calendar day following receipt of written notice of such breach or

failure to perform from Altimmune, but this right to terminate will not be available to Altimmune if it is then in breach of a representation, warranty, covenant, or agreement such that the conditions to the closing of the mergers would not be satisfied as of the time of such breach or inaccuracy;

- by PharmAthene if at any time prior to Altimmune stockholder approval:
  - PharmAthene has received a PharmAthene superior offer;
  - PharmAthene has complied with its obligations to accept a PharmAthene superior offer;
  - The Board of Directors of PharmAthene approves and PharmAthene concurrently with the termination of this Agreement enters into a definitive agreement with respect to a PharmAthene superior offer;
  - Prior to or concurrently with such termination, PharmAthene pays Altimmune a $2 million termination fee; or
- by PharmAthene if Altimmune has breached or failed to perform any of its representations, warranties, covenants or agreements contained in the Merger Agreement or if any representation or warranty of Altimmune has become untrue as of any date subsequent to the Merger Agreement, in either case such that the conditions to the closing of the mergers would not be satisfied as of time of such breach or inaccuracy, but if such breach or inaccuracy is curable, then the Merger Agreement will not terminate pursuant to this provision as a result of a particular breach unless such breach or failure is not cured by the thirtieth calendar day following receipt of written notice of such breach or failure to perform from PharmAthene, but this right to terminate will not be available to PharmAthene if it is then in breach of a representation, warranty, covenant, or agreement such that the conditions to the closing of the mergers would not be satisfied as of the time of such breach or inaccuracy.

Termination Fee

Fee payable by PharmAthene

PharmAthene must pay Altimmune a break-up fee of $2 million if:

- PharmAthene terminates the Merger Agreement to enter into a definitive agreement providing for a PharmAthene superior offer;
- (i) a PharmAthene superior offer has been made prior to termination, (ii) Altimmune terminates the Merger Agreement as a result of the occurence of any of the following (a) a PharmAthene change of recommendation will have occurred, (b) PharmAthene fails to include the PharmAthene recommendation in the proxy statement/prospectus/consent solicitation, or (c) the PharmAthene Board of Directors fails to publicly recommend against any PharmAthene takeover proposal within ten business days of the request of Altimmune to do so or PharmAthene fails to reaffirm (publicly, if so requested) the PharmAthene recommendation within ten business days of Altimmune's request to do so and (iii) within nine months after such termination, PharmAthene consummates any PharmAthene takeover proposal that would have constituted a PharmAthene superior offer had such PharmAthene takeover proposal been made prior to the time of termination; or
- (i) a PharmAthene superior offer has been made prior to termination, (ii) PharmAthene terminates the Merger Agreement if the PharmAthene stockholder approval is not obtained at the PharmAthene special meeting of stockholders (and Altimmune had the right to terminate the Merger Agreement as a result of the occurrence of any of the following (a) a PharmAthene change of recommendation will have occurred, (b) PharmAthene fails to include the PharmAthene recommendation in the proxy statement/prospectus/consent solicitation, or (c) the PharmAthene Board of Directors fails to publicly recommend against any PharmAthene takeover proposal within ten business days of the request of Altimmune to do so or PharmAthene fails to reaffirm (publicly, if so requested) the PharmAthene recommendation within ten Business Days of Altimmune's request to do so) and (iii) within nine months after such termination, PharmAthene consummates any PharmAthene takeover proposal that would have constituted a PharmAthene superior offer had such PharmAthene takeover proposal been made prior to the time of termination.

PharmAthene must pay Altimmune the actual and verifiable out-of-pocket costs and expenses of Altimmune in connection with the Merger Agreement and the transactions contemplated thereby, up to $250,000 in the aggregate, if the Merger Agreement is terminated because PharmAthene has breached or failed to perform any of its representations, warranties, covenants or agreements contained in the Merger Agreement or if any representation or warranty of PharmAthene has become untrue as of any date subsequent to the date of the Merger Agreement.

Fees payable by Altimmune

Altimmune must pay PharmAthene the actual and verifiable out-of-pocket costs and expenses of PharmAthene in connection with the Merger Agreement and the transactions contemplated thereby, up to $1 million in the aggregate, if a court of competent jurisdiction has issued an order, decree or ruling that restrains, enjoins or otherwise prohibits the mergers on the grounds that they violate the terms of the DGCL in response to any action initiated by any stockholder of Altimmune and such order, decree or ruling, or other action has not been reversed prior to June 30, 2017.

Altimmune must pay PharmAthene the actual and verifiable out-of-pocket costs and expenses of PharmAthene in connection with the Merger Agreement and the transactions contemplated thereby, up to $250,000 in the aggregate, if the agreement is terminated because Altimmune has breached or failed to perform any of its representations, warranties, covenants or agreements contained in the Merger Agreement or if any representation or warranty of Altimmune has become untrue as of any date subsequent to the date of the Merger Agreement.

Amendment

The Merger Agreement may be amended by the parties at any time, except that after the Merger Agreement has been adopted or approved by the stockholders of PharmAthene or stockholders of Altimmune, no amendment which by law requires further approval by the stockholders of PharmAthene or stockholders of Altimmune, as the case may be, will be made without such further stockholder approval.

Remedies

The parties will be entitled to an injunction or injunctions to prevent breaches of the Merger Agreement and to enforce specifically the terms and provisions of the Merger Agreement (and each party waived any requirement for the security or posting of any bond in connection with such remedy). This right is in addition to any other remedy to which such party is entitled at law or in equity, including monetary damages. The parties further agreed not to assert that a remedy of specific enforcement is unenforceable, invalid or contrary to applicable law or inequitable for any reason, and not to assert that a remedy of monetary damages would provide an adequate remedy for any such breach or that PharmAthene or Altimmune otherwise have an adequate remedy at law.

Amendment No. 1 to Merger Agreement

On March 29, 2017, PharmAthene and Altimmune entered into amendment no. 1 to the Merger Agreement, pursuant to which PharmAthene and Altimmune agreed that: (i) the certificate of incorporation of PharmAthene after the effective time of the mergers will be the certificate of incorporation of PharmAthene immediately prior to the effective time of the mergers and that, at that time PharmAthene, will file an amendment to its certificate of incorporation to change its name to “Altimmune, Inc.” and (ii) PharmAthene’s bylaws will be amended and restated immediately after the effective time of the mergers, as agreed therein (which amended and restated Exhibit C to the Merger Agreement).

VOTING AND OTHER AGREEMENTS

PharmAthene Voting Agreement

In order to induce Altimmune to enter into the Merger Agreement, concurrently and in connection with the execution of the Merger Agreement, certain of PharmAthene's stockholders, who in the aggregate, beneficially owned approximately 4,889,087, or approximately 7.01%, of the outstanding shares of PharmAthene common stock as of March 22, 2017, entered into the PharmAthene Voting Agreement in favor of Altimmune pursuant to which such PharmAthene stockholders agreed to vote their shares of PharmAthene capital stock in favor of the adoption of the Merger Agreement, the issuance of PharmAthene shares of common stock to Altimmune stockholders pursuant to the terms of the Merger Agreement, and any other actions contemplated by the Merger Agreement and against any amendment of PharmAthene's certificate of incorporation or bylaws or any other proposal or transaction, the effect of which amendment or other proposal is to delay, impair, prevent or nullify the mergers or the transactions contemplated by the Merger Agreement or change in any manner the voting rights of any capital stock of PharmAthene and against any other action or agreement that would result in a breach in any material respect of any covenant, representation or warranty or any other obligation or agreement of PharmAthene or its stockholders under the Merger Agreement. Each of these stockholders granted Altimmune an irrevocable proxy to vote their respective shares of PharmAthene capital stock in accordance with the PharmAthene Voting Agreement. These stockholders may vote their shares of PharmAthene capital stock on all other matters not referred to in such irrevocable proxy.

The PharmAthene Voting Agreement will terminate upon, among other things, the earlier of the Effective Time or termination of the Merger Agreement. The signatories thereto may not sell or transfer their shares other than under specified circumstances pursuant to the PharmAthene Voting Agreement.

The foregoing description of the PharmAthene Voting Agreement does not purport to be complete and is qualified in its entirety by reference to the form of PharmAthene Voting Agreement attached as Annex B to this proxy statement/prospectus/consent solicitation.

Altimmune Voting Agreement

On January 19, 2017, certain of Altimmune's stockholders, who beneficially own approximately 68% of the outstanding shares of Altimmune capital stock, entered into the Altimmune Voting Agreement in favor of PharmAthene, pursuant to which such Altimmune stockholders agreed to vote their shares of Altimmune common stock in favor of the adoption of the Merger Agreement and against any amendment of Altimmune's certificate of incorporation or bylaws or any other proposal or transaction involving Altimmune, the effect of which amendment or other proposal or transaction is to delay, impair, prevent or nullify the mergers or the transactions contemplated by the Merger Agreement or change in any manner the voting rights of any capital stock of Altimmune and against any other action or agreement that would result in a breach in any material respect of any covenant, representation or warranty or any other obligation or agreement of Altimmune or its stockholders under the Merger Agreement. Each of these stockholders granted PharmAthene an irrevocable proxy to vote their respective shares of Altimmune capital stock in accordance with the Altimmune Voting Agreement. These stockholders may vote their shares of Altimmune capital stock on all other matters not referred to in such proxy.

The Altimmune Voting Agreement will terminate upon, among other things, the earlier of the Effective Time or termination of the Merger Agreement. The signatories thereto may not sell or transfer their shares other than under specified circumstances pursuant to the Altimmune Voting Agreement.

The foregoing description of the Altimmune Voting Agreement does not purport to be complete and is qualified in its entirety by reference to the form of Altimmune Voting Agreement attached as Annex D to this proxy statement/prospectus/consent solicitation.

Altimmune Financing Agreement

In addition, to induce PharmAthene, Merger Sub Corp and Merger Sub LLC to enter into the Merger Agreement and to cause the mergers to be consummated, Altimmune entered into the Altimmune Financing Agreement with certain Altimmune stockholders who irrevocably committed to participate in: (i) the Altimmune Private Placement, such that not less than $3.5 million of gross proceeds for Altimmune are

received by Altimmune prior to the Effective Time and (ii) the Post-Closing Private Placement, such that not less than $5.0 million of gross proceeds are received by the combined company from such Altimmune stockholders within 135 days of the closing date of the mergers. However, if the combined company completes a public offering of common stock during such 135-day period, then the purchase price of the shares acquired in the Post-Closing Private Placement will be at the same price as the shares sold in such public offering.

PharmAthene and Altimmune Post-Closing Lock-up Agreements

Concurrently and in connection with the execution of the Merger Agreement, the directors of PharmAthene and their affiliates, as well as certain holders of 5% or more of PharmAthene's capital stock, who, in the aggregate, held approximately 7.04% of the outstanding shares of PharmAthene capital stock as of January 18, 2017, entered into the PharmAthene Lock-up Agreements with Altimmune. Pursuant to the PharmAthene Lock-up Agreements, subject to certain limited exceptions, each stockholder party thereto will be subject to lock-up restrictions on the sale of PharmAthene common stock, pursuant to which no shares of PharmAthene common stock held by such stockholder as of the Effective Time may be sold or otherwise transferred for a period of 180 days following the Effective Time. To the extent that any such sale or transfer is permitted pursuant to the exceptions included in the PharmAthene Lock-up Agreements, each person to whom any shares of PharmAthene common stock are so sold or transferred must agree in writing to be bound by the terms and provisions of the PharmAthene Lock-up Agreements.

Concurrently and in connection with the execution of the Merger Agreement, certain of the officers, directors and stockholders of Altimmune, who in the aggregate held approximately 68% of the outstanding shares of Altimmune capital stock as of January 18, 2017, entered into the Altimmune Lock-up Agreements with PharmAthene. Pursuant to the Altimmune Lock-up Agreements, each such stockholder will be subject to lock-up restrictions on the sale of PharmAthene common stock acquired in the mergers. Such restrictions will begin at the Effective Time and end 180 days after the Effective Time. To the extent that any such sale or transfer is permitted pursuant to the exceptions included in the Altimmune Lock-up Agreements, each person to whom any shares of PharmAthene common stock are so sold or transferred must agree in writing to be bound by the terms and provisions of the Altimmune Lock-up Agreements.

The foregoing description of each of the PharmAthene Lock-Up Agreements and Altimmune Lock-Up Agreements does not purport to be complete and is qualified in its entirety by reference to the forms of PharmAthene Lock-Up Agreement and Altimmune Lock-up Agreement, which are filed as Annexes C and E, respectively, and which are incorporated herein by reference.

UNAUDITED *PRO FORMA* CONDENSED COMBINED FINANCIAL DATA

On January 18, 2017, PharmAthene, Inc., a Delaware corporation ("PharmAthene" or the "Company"), and its wholly owned acquisition subsidiaries Mustang Merger Sub Corp I Inc. and Mustang Merger Sub II LLC (the "Merger Subs"), agreed to acquire 100% of the outstanding capital stock of Altimmune, Inc., a Delaware corporation ("Altimmune"), in a transaction intended to qualify as a reorganization pursuant to section 368(a) of the Internal Revenue Code (the "Mergers"), pursuant to an Agreement and Plan of Merger (the "Merger Agreement"). Consummation of the Mergers is subject to the satisfaction or waiver of customary closing conditions, including, among other things, obtaining the requisite approvals of the stockholders of the Company and Altimmune, including the approval of the charter amendments by the Company's stockholders, the Company having a minimum net cash of $10.25 million at the time of closing, the completion of a private placement by Altimmune of at least $3.5 million of gross proceeds prior to closing, a reverse stock split in a manner to be determined prior to closing, and the effectiveness of a registration statement on Form S-4 relating to the shares of PharmAthene common stock to be issued to Altimmune stockholders pursuant to the Merger Agreement. It is currently anticipated that the Mergers will close during the second quarter of 2017.

From 2006 through 2016, PharmAthene engaged in legal proceedings with SIGA Technologies, Inc. ("SIGA"). In the fourth quarter of 2016, PharmAthene received in cash approximately $94 million of the remaining amounts including amounts calculated as interest owed to the Company by SIGA in resolution of the legal matter, bringing the total amount of cash received from SIGA pursuant to the award to $217.1 million.

In November 2016, PharmAthene's board of directors declared a special one-time dividend of approximately $200 million that was paid on February 3, 2017. The dividend was designed to distribute 98% of the proceeds received from SIGA related to the resolution of the aforementioned legal matters.

In January 2017, Altimmune entered into an agreement for the private placement of $8.6 million of 6% convertible notes due February 2018 (the "Notes"). The Notes are automatically convertible into shares of Altimmune's common stock upon closing of the Merger, or into (i) securities issued by Altimmune in a subsequent financing, (ii) shares of Altimmune's common stock issued in a public offering, or (iii) shares of Altimmune's preferred stock, depending on timing and occurrence of certain events. An initial tranche of $3.6 million is expected to close and be funded prior to Merger closing; the closing and funding of the second tranche is conditioned upon certain events, but will close no later than 135 days after the effective date Mergers or 10 days after the termination of the Merger Agreement. In connection with the Notes, the Company issued stock purchase warrants to purchase 66,447 shares of Altimmune's common stock, with a strike price of $0.01 per share; the warrants are classified as equity.

The following unaudited *pro forma* condensed combined balance sheet as of December 31, 2016 and the unaudited *pro forma* condensed combined statement of operations for the year ended December 31, 2016 are based on the historical financial statements of the Company and Altimmune after giving effect to the Mergers. The Mergers will be accounted for as a reverse acquisition business combination, using the purchase method of accounting.

The following unaudited *pro forma* condensed combined statement of operations for the year ended December 31, 2016 give effect to the Mergers as if they had occurred on January 1, 2016. The unaudited *pro forma* condensed combined balance sheet as of December 31, 2016 assumes that the Mergers took place on that date.

These unaudited *pro forma* condensed combined financial statements (the "*Pro Forma* Financial Statements") are provided for informational purposes only and are subject to a number of uncertainties and assumptions and do not purport to represent what the companies' actual performance or financial position would have been had the Mergers occurred on the dates indicated and does not purport to indicate the financial position or results of operations as of any future date or for any future period. With respect to the *Pro Forma* Financial Statements, the unaudited condensed statements of operations for the year ended December 31, 2016 were derived from (i) the Company's audited consolidated financial statements as of and for the year ended December 31, 2016, as included in its Annual Report on Form 10-K incorporated herein by

reference and (ii) Altimmune's audited consolidated financial statements as of and for the year ended December 31, 2016 included elsewhere herein.

The *pro forma* condensed combined financial statements reflect management's best estimate of the fair value of the tangible and intangible assets acquired and liabilities assumed in the Mergers based on a preliminary valuation study performed by an independent third-party valuation firm based on information currently available. Certain valuations and studies necessary to finalize the determination of estimated fair values and estimated useful lives, including with respect to in-process research and development, among other things, are incomplete as of the date of this filing. As final valuations are performed, increases or decreases in the fair value of assets acquired and liabilities assumed may result in adjustments, which may be material, to the balance sheet and/or statement of operations.

These unaudited *pro* forma condensed combined financial statements include adjustments which give effect to the events that are directly attributable to the Mergers, expected to have a continuing impact and are factually supportable.

PharmAthene, Inc.

Unaudited *Pro Forma* Condensed Combined Balance Sheet
As of December 31, 2016

	PharmAthene, Inc.	Altimmune, Inc.	*Pro Forma* Adjustments		*Pro Forma*
Assets					
Current assets					
Cash and cash equivalents	$ 153,994,922	$ 2,876,113	$(140,277,922)	**(a)(b)(d)**	$ 16,593,113
Short term investments	66,810,962	—	(66,810,962)	**(b)**	—
Accounts receivable, net	999,145	383,046	—		1,382,191
Prepaid expenses and other current assets	464,797	1,227,931	—		1,692,728
Total current assets	**222,269,826**	**4,487,090**	**(207,088,884)**		**19,668,032**
Property and equipment, net	120,944	177,859	—		298,803
Goodwill	2,348,453	18,758,421	15,596,200	**(a)(f)**	36,703,074
Intangible assets, net	—	14,954,717	16,811,000	**(f)**	31,765,717
Other noncurrent assets	—	22,248			22,248
Total assets	**$ 224,739,223**	**$ 38,400,335**	**$(174,681,684)**		**$ 88,457,874**
Liabilities, Preferred Stock and Stockholders' Equity					
Current liabilities					
Accounts payable	$ 926,529	$ 2,005,208	$ —		$ 2,931,737
Dividends payable	197,083,993	—	(197,083,993)	**(b)**	—
Current portion of notes payable	—	458,629	—		458,629
Accrued expenses and other current liabilities	2,083,472	3,006,886	2,418,773	**(g)**	7,509,131
Accrued income taxes payable	3,157,563	—	—		3,157,563
Accrued restructuring expenses – current	109,126	—	—		109,126
Other short-term liabilities	11,588	—	—		11,588
Derivative instruments	1,465,272	—	—		1,465,272
Total current liabilities	**204,837,543**	**5,470,723**	**(194,665,220)**		**15,643,046**
Note payable, net of current portion	—	525,950	—		525,950
Deferred tax liability	—	—	6,724,400	**(f)**	6,724,400
Convertible note payable	—	—	—	**(d)**	—
Other long-term liabilities	442,589	196,339	—		638,928
Total liabilities	**205,280,132**	**6,193,012**	**(187,940,820)**		**23,532,324**
Stockholders' equity					
Convertible preferred stock	—	8,000	(8,000)	**(e)**	—
Common stock	6,773	92,339	(98,442)	**(c)(d)(e)(h)**	670
Additional paid-in capital	49,323,222	70,941,245	(15,655,326)	**(a)(c)(d)(e)(f)(h)(k)**	104,609,141
Accumulated deficit	(29,869,852)	(31,259,449)	29,019,852	**(b)(g)(k)**	(32,109,449)
Accumulated other comprehensive loss	(1,052)	(7,574,812)	1,052	**(k)**	(7,574,812)
Total stockholders' equity	**19,459,091**	**32,207,323**	**13,259,136**		**64,925,550**
Total liabilities, preferred stock and stockholders' equity	**$ 224,739,223**	**$ 38,400,335**	**$(174,681,684)**		**$ 88,457,874**

See accompanying notes to unaudited pro forma condensed combined financial statements.

PharmAthene, Inc.

Unaudited *Pro Forma* Condensed Combined Statement of Operations
for the year ended December 31, 2016

	PharmAthene, Inc.	Altimmune, Inc.	*Pro Forma* Adjustments		*Pro Forma*
License revenue	$ —	$ 410,102	$ —		$ 410,102
Research grants and contracts	5,230,196	2,826,073	—		8,056,269
Total revenue and grants and contracts	5,230,196	3,236,175	—		8,466,371
Operating expenses					
Research and development expenses	4,836,035	7,221,460	—		12,057,495
General and administrative	11,515,071	7,106,378	(1,203,397)	**(g)**	17,418,052
Depreciation	143,437	—	—		143,437
Total operating expense	16,494,543	14,327,838	(1,203,397)		29,618,984
Operating loss	(11,264,347)	(11,091,663)	1,203,397		(21,152,613)
Other income (expense):					
Interest income (expense)	168,150	(37,452)	—		130,698
Income from litigation settlement	217,068,969	—	—		217,068,969
Change in fair value of derivative instruments	(957,070)	—	—		(957,070)
Other income (expense)	7,847	42,303	—		50,150
Total other income, net	216,287,896	4,851	—		216,292,747
Net income (loss) before income taxes	205,023,549	(11,086,812)	1,203,397		195,140,134
Income tax provision	(11,169,376)	—	—		(11,169,376)
Net income (loss)	193,854,173	(11,086,812)	1,203,397		183,970,758
Accumulated dividends on preferred stock	—	(368,548)	368,548	**(j)**	—
Net income (loss) attributed to common stockholders	$193,854,173	$(11,455,360)	$ 1,571,945		$183,970,758
Weighted-average common shares outstanding, basic	65,306,962		(58,566,184)	**(i)**	6,740,778
Weighted-average common shares outstanding, diluted	65,657,802		(58,256,903)	**(i)**	7,400,899
Basic net income per share	$ 2.97				$ 27.29
Diluted net income per share	$ 2.95				$ 24.86

See accompanying notes to unaudited pro forma condensed combined financial statements.

NOTES TO UNAUDITED *PRO FORMA* CONDENSED COMBINED FINANCIAL STATEMENTS

1. Description of Transactions

Mergers

On January 18, 2017, PharmAthene, Inc., a Delaware corporation ("PharmAthene" or the "Company"), and its wholly owned acquisition subsidiaries Mustang Merger Sub Corp I Inc. and Mustang Merger Sub II LLC (the "Merger Subs"), agreed to acquire 100% of the outstanding capital stock of Altimmune, Inc., a Delaware corporation ("Altimmune"), in a transaction intended to qualify as a reorganization pursuant to section 368(a) of the Internal Revenue Code (the "Mergers"), pursuant to an Agreement and Plan of Merger (the "Merger Agreement"). Consummation of the Mergers is subject to the satisfaction or waiver of customary closing conditions, including, among other things, obtaining the requisite approvals of the stockholders of the Company and Altimmune, including the approval of the charter amendments by the Company's stockholders, the Company having a minimum level of cash of $10.25 million at the time of closing, the completion of a private placement by Altimmune of at least $3.5 million of gross proceeds prior to closing, a reverse stock split in a manner to be determined prior to closing, and the effectiveness of a registration statement on Form S-4 relating to the shares of PharmAthene common stock to be issued to Altimmune stockholders pursuant to the Merger Agreement. It is currently anticipated that the Mergers will close during the second quarter of 2017.

In connection with the Mergers:

- all of Altimmune's treasury stock will be cancelled and retired;
- all of Altimmune's outstanding convertible debt will automatically convert into shares of Altimmune's common stock and be eligible for merger consideration;
- PharmAthene will effect a reverse stock split that will be between 1:10 and 1:75;
- all of Altimmune's outstanding common stock and preferred stock will be exchanged for approximately 73.4 million shares of PharmAthene's common stock (3.7 million after giving effect to the proposed reverse stock split) at a ratio of 7.06 Company shares for each Altimmune share of common stock (the "Exchange Ratio").
- Altimmune's outstanding stock purchase warrants to acquire its common stock will be converted into 6.2 million shares (0.3 million after giving effect to the proposed reverse stock split) of PharmAthene's common stock;
- Altimmune's outstanding options to acquire its common stock will be converted into 17.8 million shares (0.9 million after giving effect to the proposed reverse stock split) of PharmAthene's common stock;
- Altimmune's outstanding restricted common stock will be converted into 0.3 million shares (16 thousand after giving effect to the proposed reverse stock split) of PharmAthene's restricted common stock;
- Immediately following the Closing, PharmAthene's former shareholders will own 41.8% of the fully diluted equity of the combined company, and Altimmune's former shareholders will own 58.2% of the fully diluted equity;
- the combined company's officers and senior management will be solely comprised of Altimmune's officers and senior management; and
- four of the combined company's directors will be selected by Altimmune and three of the directors will be selected by PharmAthene.

In anticipation of the Mergers, in January 2017, Altimmune entered into an agreement for the private placement of $8.6 million of 6% convertible notes due February 2018 (the "Notes"). The Notes are automatically convertible into shares of Altimmune's common stock upon closing of the Merger, or into (i) securities issued by Altimmune in a subsequent financing, (ii) shares of Altimmune's common stock issued in a public offering, or (iii) shares of Altimmune's preferred stock, depending on timing and occurrence of

NOTES TO UNAUDITED *PRO FORMA* CONDENSED COMBINED FINANCIAL STATEMENTS

***1. Description of Transactions* – (continued)**

certain events. An initial tranche of $3.6 million is expected to close and be funded prior to Merger closing; the closing and funding of the second tranche is conditioned upon certain events, but will close no later than 135 days after the effective date of the Mergers or 10 days after the termination of the Merger Agreement. In connection with the Notes, the Company issued stock purchase warrants to purchase 66,447 shares of Altimmune's common stock, with a strike price of $0.01 per share; the warrants are classified as equity.

2. Basis of Presentation

The unaudited *pro* forma condensed combined financial statements were prepared in accordance with the regulations of the U.S. Securities and Exchange Commission (the "SEC") and are intended to show how the Mergers might have affected the historical financial statements if the Mergers had been completed on January 1, 2016 for the purposes of the statements of operations and the Mergers had been completed on December 31, 2016 for the purposes of the balance sheet.

Certain disclosures normally included in financial statements prepared in accordance with generally accepted accounting principles in the United States have been condensed or omitted in these *pro forma* condensed combined financial statements as permitted by SEC rules and regulations.

The *pro forma* adjustments reflect the Mergers as a reverse acquisition business combination, using the purchase method of accounting.

3. Accounting for the Mergers

On January 18, 2017, PharmAthene agreed to acquire 100% of the outstanding capital stock of Altimmune in a transaction intended to qualify as a reorganization pursuant to section 368(a) of the Internal Revenue Code. The Company has concluded that Altimmune is the accounting acquirer in the Mergers and that the Mergers should be accounted for as a reverse merger business combination in accordance with the purchase method of accounting.

Pursuant to the purchase method, the purchase consideration is allocated to the assets acquired and the liabilities assumed based on their estimated fair values, with any excess of the purchase consideration over the estimated fair values of the identifiable net assets acquired being recorded as goodwill. PharmAthene's accounting policies and practices did not materially differ from Altimmune's accounting policies and practices.

Fair value of consideration transferred

The fair value of the merger consideration was determined based on a business enterprise value analysis using a discounted cash flow ("DCF") valuation methodology. The DCF method is a valuation methodology under the Income Approach to value. The Income Approach is based on the expected risk/return relationship of an investment, and measures the present worth of anticipated future economic streams of income generated by a subject entity or interest. Economic income streams are identified or forecasted for a representative period, then discounted to a present value using an appropriate discount rate based upon the uncertainty associated with the income stream. Key unobservable inputs used on this analysis included the cost of capital or discount rate to apply to PharmAthene's forecasted debt-free net cash flows, which was determined to be 48%.

Since 2006, PharmAthene has been engaged in legal proceedings with SIGA Technologies, Inc. ("SIGA"). In the fourth quarter of 2016, PharmAthene received in cash $93.7 million of the remaining amounts including amounts calculated as interest owed to the Company by SIGA in resolution of the legal matter, bringing to total amount of cash received from SIGA pursuant to the award to $217.1 million. In November 2016, PharmAthene's board of directors declared a special one-time dividend of approximately $200 million that was paid on February 3, 2017. The dividend was designed to distribute 98% of the proceeds received from SIGA related to the resolution of the aforementioned legal matters.

Using this Income Approach methodology and factoring in the SIGA receipts and the special dividend, PharmAthene's business enterprise value as of the anticipated closing of the Mergers was estimated to be approximately $31.7 million.

NOTES TO UNAUDITED *PRO FORMA* CONDENSED COMBINED FINANCIAL STATEMENTS

***3. Accounting for the Mergers* – (continued)**

Fair value of assets acquired and liabilities assumed

The following table summarizes the estimated allocation of the merger consideration to the assets acquired and liabilities assumed on Closing, based on their preliminary estimated fair values as follows:

Estimated fair vale of Merger consideration	$31,760,000
Estimated fair value of tangible assets acquired:	
Cash and cash equivalents	$10,250,000
Receivables	999,145
Prepaid expenses and other current assets	464,797
Property and equipment	120,944
	11,834,886
Identifiable Intangible Assets Acquired:	
IPR&D	16,811,000
	16,811,000
Liabilities Assumed:	
Accounts payable and accruals	6,288,278
Deferred tax liability	6,724,400
Other liabilities	1,907,861
	14,920,539
Goodwill	17,944,653
Net Assets Acquired	$31,670,000

In-process research and development ("IPR&D") and goodwill are considered indefinite lived assets. The Company determined the estimated fair value of the IPR&D using the Multi-Period Excess Earnings Method ("MPEEM"). The MPEEM is a variation of the Income Approach that is often used to value a business's primary, or primary income generating, asset, or an intangible asset for which application of other valuation approaches, or methods, is determined to likely result in a less reliable indication of value. In applying the MPEEM, the goal is to estimate the future economic earnings attributable to the subject intangible asset. This method requires the application of contributory asset capital charges that reflects the cost of using other assets (tangible and intangible) in generating the economic earnings attributable to the subject asset. Key unobservable inputs used in the MPEEM included forecasts of the operating results that would be expected from use of the IPR&D in consideration of the Company's planned business model which included third-party R&D, manufacturing and marketing, and an estimated discount rate to the adjusted debt-free net cash flows. The Mergers were structured as a tax-free reorganization and therefore the Company expects to receive carryover basis in the assets and liabilities acquired; accordingly, the Company assumed net deferred tax liabilities associated with the Mergers with a preliminary estimated fair value of approximately $6.7 million. The net deferred tax liabilities do not result in a reduction of Altimmune's existing valuation allowance since the indefinite-lived intangible asset is not considered a future source of taxable income.

The *pro forma* condensed combined financial statements reflect management's best estimate of the fair value of the tangible and intangible assets acquired and liabilities assumed in the Mergers based on a preliminary valuation study performed by an independent third-party valuation firm based on information currently available. Certain valuations and studies necessary to finalize the determination of estimated fair values and estimated useful lives, including with respect to in-process research and development, among other things, are incomplete as of the date of this filing. As final valuations are performed, increases or decreases in the fair value of assets acquired and liabilities assumed may result in adjustments, which may be material, to the balance sheet and/or statement of operations.

NOTES TO UNAUDITED *PRO FORMA* CONDENSED COMBINED FINANCIAL STATEMENTS

***3. Accounting for the Mergers* – (continued)**

After the Mergers, the Company's legal capital structure (i.e., its outstanding shares of capital stock times par value) is reflected as the combined company's common stock outstanding. After the Mergers, the combined company's statements of operations will include Altimmune's and the Company's activities; historical financial statements will solely reflect Altimmune's activities, as predecessor entity.

4. Pro Forma Adjustments

The following represent the *pro forma* adjustments made to the historical financial statements:

(a) Represents the *pro forma* elimination of PharmAthene's existing goodwill from previous acquisitions of $2.3 million, and the reduction of PharmAthene's net working capital of $10.6 million as contemplated in the Merger Agreement.

(b) Represents the *pro forma* effect of the distribution by PharmAthene of $200.3 million of the special dividend declared in November 2016 and paid on February 3, 2017.

(c) Represents the *pro forma* effect of an estimated 1:20 reverse stock split to be effective as of the closing of the Mergers pursuant to the Merger Agreement.

(d) Represents the *pro forma* effect of the first tranche of Altimmune's private placement of 6% convertible notes (the "Notes") for gross proceeds of $3.5, including the issuance of stock purchase warrants to acquire 66,447 shares of Altimmune's common stock, along with the *pro forma* effect of the automatic conversion of the Notes upon the closing of the Mergers and the issuance of 356,700 shares of Altimmune's common stock. The warrants are replaced by PharmAthene warrants with identical terms and conditions, have an estimated fair value of $0.5 million using the black-scholes option pricing model, and are classified as equity.

(e) Represents the *pro forma* elimination of Altimmune's historical equity accounts.

(f) Represents the *pro forma* impact of the allocation of merger consideration to IPR&D acquired of $16.8 million related to the Company's in-process SparVax-L vaccine development program along with a related deferred tax liability of $6.7 million, and to goodwill of $17.9 million.

(g) Represents the *pro forma* impact to the balance sheet of accruing approximately $2.4 million of transaction expenses expected to be incurred subsequent to December 31, 2016, and the *pro forma* impact to the statement of operations of eliminating approximately $1.2 million of transaction expenses incurred during the year ended December 31, 2016.

(h) Represents the *pro forma* issuance of 73,781,118 shares of the PharmAthene's common stock (3.7 million after giving effect to the reverse stock split) in exchange for 100% of Altimmune's common stock and preferred stock outstanding (including those shares issued upon conversion of Altimmune's convertible notes), pursuant to the Exchange Ratio.

(i) Represents the *pro forma* impacts to PharmAthene's weighted average shares outstanding for purposes of calculating *pro forma* basic and diluted loss per share for the year ended December 31, 2016, resulting from the issuance of (i) 73,406,169 shares of the PharmAthene's common stock (3.7 million after giving effect to the reverse stock split) in exchange for 100% of Altimmune's common stock and preferred stock outstanding (including those shares issued upon conversion of Altimmune's convertible notes), (ii) replacement stock options to acquire 17,805,988 shares of PharmAthene's common stock (0.9 million after giving effect to the reverse stock split), (iii) 328,075 replacement shares of PharmAthene restricted stock (16 thousand after giving effect to the reverse stock split) and (iv) replacement warrants to acquire 6,242,104 shares of PharmAthene's common stock (0.3 million after giving effect to the reverse stock split) pursuant to the Exchange Ratio.

(j) Represents the *pro forma* elimination of preferred stock dividends recognized by Altimmune on its outstanding preferred stock since all preferred stock were exchanged for PharmAthene's common stock at the Exchange Ratio.

NOTES TO UNAUDITED *PRO FORMA* CONDENSED COMBINED FINANCIAL STATEMENTS

***4. Pro Forma Adjustments* – (continued)**

(k) Represents the *pro forma* elimination of the Company's historical equity accounts, except for the par value of outstanding common stock.

5. Pro Forma Earnings (Loss) per Share

Pro forma income (loss) per share, basic and diluted, including *pro forma* impacts of the Mergers, is calculated as follows:

	For the Year Ended December 31, 2016
Basic	
Net income per share	$ 193,854,173
Pro forma net income	$ 183,970,758
Weighted average outstanding shares for the year, as orginally reported	65,306,962
Pro forma adjustment – weighted average common shares issued as consideration	69,508,607
Pro forma adjustment – 1:20 reverse stock split	(128,074,791)
Pro forma weighted average outstanding shares for the year	6,740,778
Basic and diluted loss per share, as originally reported	$ 2.97
Pro forma basic and diliuted loss per share	$ 27.29
Diluted	
Net income per share	$ 193,854,173
Pro forma net income	$ 183,970,758
Weighted average outstanding shares for the year, as orginally reported	65,657,802
Pro forma adjustment – weighted average common shares issued as consideration	69,508,607
Pro forma adjustments – potential dilutive securities	12,851,570
Pro forma adjustment – 1:20 reverse stock split	(140,617,080)
Pro forma weighted average outstanding shares for the year	7,400,899
Basic and diluted loss per share, as originally reported	$ 2.95
Pro forma basic and diliuted loss per share	$ 24.86

NOTES TO UNAUDITED *PRO FORMA* CONDENSED COMBINED FINANCIAL STATEMENTS

***5. Pro Forma Earnings (Loss) per Share* – (continued)**

MANAGEMENT OF THE COMBINED COMPANY

The seven members of the Board of Directors of the combined company will initially consist of four directors designated by Altimmune, David J. Drutz, M.D., Philip Hodges, Klaus Schafer, M.D., and William Enright, and three directors designated by PharmAthene, Mitchel Sayare, Ph.D., Derace L. Schafer, M.D. and John M. Gill.

Following the mergers, the combined company's executive officers will be William Enright (Chief Executive Officer), Elizabeth A. Czerepak (Chief Financial Officer), M. Scot Roberts, Ph.D. (Chief Scientific Officer), and Sybil Tasker, M.D. (Senior Vice President of Clinical Research and Development). Additionally, Bertrand Georges, Ph.D., a significant employee, will continue as Chief Technology Officer of the combined company. Each of these executive officers and significant employees of the combined company currently holds the same position at Altimmune.

Executive Officers, Significant Employees and Directors of the Combined Company Following the Mergers

Below is a list of the names, ages as of March 22, 2017 positions, and a brief account of the business experience of the individuals who will serve as executive officers, significant employees and directors of the combined company.

Name	Age	Position
William Enright	54	President and Chief Executive Officer; Director
Elizabeth A. Czerepak	61	Chief Financial Officer
M. Scot Roberts, Ph.D.	58	Chief Scientific Officer
Sybil Tasker, M.D.	54	Senior Vice President of Clinical Research and Development
Bertrand Georges, Ph.D.	46	Chief Technology Officer
David J. Drutz, M.D.	78	Chairman of the Board
Mitchel Sayare, Ph.D.	69	Director
Philip Hodges	48	Director
Klaus Schafer, M.D.	67	Director
Derace L. Schaffer, M.D.	69	Director
John M. Gill	65	Director

Management

William Enright — Chief Executive Officer

Mr. Enright currently serves as President and CEO of Altimmune and is a member of its board of directors. He joined Altimmune as President and a member of the board of directors in June 2008 and was named CEO shortly thereafter. Mr. Enright brings more than 25 years of experience in a variety of positions within the life science and biotech industries. Prior to joining Altimmune, Mr. Enright spent six years with GenVec, Inc. (NASDAQ: GNVC) with increasing responsibilities culminating in the Head of Business Development. Mr. Enright was responsible for helping to build GenVec's vaccine business including generating approximately $140 million of funding for vaccine-related initiatives and moving four vaccines into clinical development. Prior to GenVec, Mr. Enright was a self-employed consultant providing business development and strategic marketing services to academic institutions and a number of small to mid-size life science companies. Prior to becoming a consultant, and after spending several years as a bench scientist at SUNY at Buffalo, Mr. Enright spent 12 years with Life Technologies, Inc., working in various licensing, business management, manufacturing and research roles. Mr. Enright received a Master of Arts in Biology from SUNY at Buffalo and a Master of Science in Business Management from Johns Hopkins University.

Elizabeth A. Czerepak — Chief Financial Officer

Ms. Czerepak joined Altimmune in April 2015 as its Chief Financial Officer and received the additional title of Executive Vice President of Corporate Development in January 2017. An experienced finance executive, Ms. Czerepak has led a broad range of initiatives at public and privately held pharmaceutical and biotechnology companies. As a venture capital investor and board member of several portfolio companies at Bear Stearns Health Innoventures (BSHI), she played a key role in raising hundreds of millions of dollars in

private financings and IPOs, and the successful sale of two portfolio companies. From April 2014 until April 2015, Ms. Czerepak served as CFO and Chief Business Officer at Isarna Therapeutics BV and, earlier, from January 2011 until March 2014, as CFO and Principal Accounting Officer at Cancer Genetics, Inc. (NASDAQ: CGIX). Prior to CGIX, from April 2000 until June 2009, she was a founding general partner at BSHI, and from April 2000 until December 2008, she was a managing director and an NASD Registered Representative at JP Morgan Inc. and Bear Stearns & Co. Earlier in her career, Ms. Czerepak was Vice President of Business Development and a member of the U.S. executive board at BASF Pharma, and held senior-level finance, licensing and corporate development positions at Hoffmann-La Roche and Merck & Co. Ms. Czerepak has an MBA from Rutgers University and a BA magna cum laude from Marshall University.

M. Scot Roberts, Ph.D. — Chief Scientific Officer

Dr. Roberts joined Altimmune in December 2012 and has nearly 20 years of senior technical leadership experience, most recently at ImQuest BioSciences, Inc., where as Chief Scientific Officer from November 2010 until November 2012, he was responsible for managing scientific operations as well as business development opportunities in cancer and antivirals. Dr. Roberts held key positions at Wellstat Biologics Corporation from August 1996 until October 2010, including Director of Research and Development where he was responsible for a portfolio of biologic candidates in oncology including a clinical stage asset. He also led bioassay development efforts for the company and assumed leadership roles in upstream process development and animal pharmacology while at Wellstat. Dr. Roberts has significant experience in both small molecule and biologics drug development with a focus on viral vectors and antiviral therapies. Dr. Roberts completed a post-doctoral fellowship at the National Cancer Institute, Laboratory of Molecular Virology and has numerous patents and publications in peer-reviewed journals, and has been an invited speaker and Chair at numerous international conferences. Dr. Roberts received his Ph.D. from the Johns Hopkins School of Medicine, Department of Pharmacology and Molecular Sciences.

Sybil Tasker, M.D.,M.P.H., FACP, FIDSA — Senior Vice President of Clinical Research and Development

Dr. Tasker joined Altimmune as Senior Vice President of Clinical Research and Development in April 2016, and is an experienced infectious disease clinician and fellow of the American College of Physicians and the Infectious Diseases Society of America. Prior to joining Altimmune, she led development of a therapeutic herpes simplex vaccine at Genocea Biosciences and had positions of increasing responsibility in infectious disease product development strategy at two global CROs. A prior career military officer, she was the senior U.S. Navy infectious disease physician and technical advisor to Department of Defense leaders about a wide variety of infectious disease policy issues, including HIV, tropical disease, vaccination, infection control, bioterrorism and pandemic preparedness. She has extensive antimicrobial, vaccine and infectious disease-related device and diagnostic development experience across all phases of the clinical development process. She holds a California medical license and is board certified in both internal medicine and infectious diseases. Dr. Tasker earned an A.B. degree in Biochemistry from Princeton University, an M.D. degree from Columbia University and an M.P.H. degree from Johns Hopkins University School of Public Health.

Significant Employees

Bertrand Georges, Ph.D. — Chief Technology Officer

Dr. Georges has 15 years expertise in the field of molecular & cellular immunology and T cell vaccine development. He was co-founder and Chief Technology Officer of Immune Targeting Systems (ITS) Limited from 2004 until its acquisition by Altimmune in March 2015. From December 1999 to September 2003, Dr. Georges held the position of head of immunology at SEDAC-Therapeutics and he was head of preclinical at Adocia from June 2005 to December 2006. From 2006 to September 2007, Dr. Georges was the scientific director at Diaclone.. Dr. Georges has significant experience in product formulation and manufacturing, preclinical and early clinical development with a focus on peptide-based vaccines. Dr. Georges has a special interest in designing vaccines against infectious diseases and cancer and has developed T cell epitope identification methodologies combining in silico, in vitro and in vivo approaches. He received his Ph.D. in Molecular Immunology from the Pasteur Institute and is the co-author of 18 publications and co-inventor of 11 patent families.

Directors

David J. Drutz, M.D., Chairman of the Board

Dr. Drutz, who was first elected to Altimmune's board of directors in January 2010 and has served as Chairman of the Board since October 2011, is the President of Pacific Biopharma Associates, a biopharmaceutical consulting company that he founded in January 1999. Between 2008 and 2015, he served as Director (March 2008 – December 2015), Chief Executive Officer (December 2011 – June 2014), Executive Chairman (June 2014 – December 2015) and Chief Medical Officer (January 2012 – December 2015) of DARA BioSciences (NASDAQ:DARA), an oncology supportive care company located in Raleigh, NC, which was acquired by Midatech Pharma in December 2015. Dr. Drutz served previously as Chairman of Tranzyme, Inc. (NASDAQ:TZYM) from 2000 to 2010, which was acquired by Ocera Therapeutics (NASDAQ:OCRX); Director of MethylGene, Inc. (TSX:MYG) from 2000 to 2010, which was acquired by Mirati Therapeutics (NASDAQ:MRTX); and Director of Gentris Corporation from 2007 to 2014, which was acquired by Cancer Genetics (NASDAQ:CGIX). From 1999 to 2008 he was a general partner with Pacific Rim Ventures, a Tokyo-based international venture capital firm. He is a former member of the Science and Industry Advisory Committee (SIAC) of Genome Canada, which advises Genome Canada's board of directors regarding genomics investments throughout Canada. Dr. Drutz's management experience includes tenures as VP Biological Sciences and VP Clinical Research at Smith Kline & French Laboratories, VP Clinical Development at Daiichi Pharmaceutical Corporation, and CEO of Inspire Pharmaceuticals (1995 – 1998) and Sennes Drug Innovations (1994 – 1995). Earlier in his career, Dr. Drutz was Professor of Medicine and Chief of the Division of Infectious Diseases at the University of Texas Health Science Center, San Antonio, and prior to that appointment was Assistant Professor of Medicine and Chief of the Division of Infectious Diseases at the University of California, San Francisco/San Francisco General Hospital. Dr. Drutz received his M.D. from the University of Louisville School of Medicine and postgraduate training in internal medicine and infectious diseases at Vanderbilt University School of Medicine, serving subsequently as a research medical officer (infectious diseases) in the U.S. Navy with the rank of Lieutenant Commander. He is certified by the American Board of Internal Medicine, a fellow of the American College of Physicians and the Infectious Diseases Society of America, a member of the American Society of Clinical Oncology and the American Society for Clinical Investigation, and the author of more than 200 peer-reviewed articles, book chapters and abstracts for presentation. Dr. Drutz brings significant experience in biotechnology investment and as a physician to Altimmune's board of directors.

William Enright

For Mr. Enright's biography, see the section above entitled "— Management." Mr. Enright brings significant experience as Altimmune's Chief Executive Officer and in the biotechnology industry to the combined company's board of directors.

Philip L. Hodges

Mr. Hodges was first elected to Altimmune's board of directors in September 2003 and is currently serving as chair of its audit committee. He is Managing Partner of Redmont Capital, a private equity firm located in Birmingham, Alabama, which he joined at its inception in 1997. Redmont Capital is a co-founder of Altimmune. Mr. Hodges' investment strategy is focused on high-growth small businesses within the health care, life science and technology sectors. He currently serves as a director for several of the firm's portfolio companies. Mr. Hodges holds a Bachelor of Science in Business Administration from the Brock School of Business at Samford University. Mr. Hodges brings significant experience as a life science investor and co-founder to the combined company's board of directors.

Brigadier General (ret.) Klaus O. Schafer, M.D., MPH

Brigadier General (ret.), Klaus Schafer, M.D., MPH, has over 30 years of leadership experience, having held senior positions in government and industry. He was first elected to Altimmune's board of directors in July 2012. As the Deputy Asst. to the Secretary of Defense for chemical and biological defense, a position he held from April 2004 through June 2005, he oversaw the management of the Department of Defense's $1.0 billion program for vaccine, therapeutics, medical device and sensor development. He retired from the Air Force as the Assistant Surgeon General with extensive experience managing all aspects of large integrated health care delivery systems. Prior private sector experience includes VP of business development for

Compressus Inc., a telemedicine start-up, former CEO and cofounder of TessArae LLC, a start-up biotech genetic testing company. He is currently Chief Medical Officer and VP, business development, Health for CACI International, a publicly traded Fortune 1000 company. Dr. Schafer brings significant experience as a physician and biotechnology investor, in government and as a board member and advisor in the health care biodefense industry to the combined company's board of directors.

Mitchel B. Sayare, Ph.D.

Dr. Sayare has been a member of the Board of Directors of PharmAthene since April 2010 and was appointed Chairman of the Board in July 2011. Until 2010, Dr. Sayare served as the Chairman of the Board of public company ImmunoGen, Inc. (a position he had held since 1989). In addition, he served as ImmunoGen's Chief Executive Officer from 1986 to December 31, 2009, and as its President from 1986 to 1992, and from 1994 to July 2008. He currently serves as a consultant to ImmunoGen. Prior to joining ImmunoGen, he served as Vice President of Development of Xenogen from 1982 to 1985. Prior to that he was Assistant Professor of Biophysics and Biochemistry at the University of Connecticut. Dr. Sayare earned a Ph.D. in biochemistry from Temple University School of Medicine. Dr. Sayare is a director of Boston IVF, Inc., Cymogen Dx, Inc. and Isabella Products, Inc., all privately-held companies. Dr. Sayare was chosen to serve as a director of PharmAthene because of his substantial experience as a board member and executive officer of biotechnology companies.

Derace L. Schaffer, M.D.

Dr. Schaffer previously served as Vice Chairman and Chief Executive Officer of Healthcare Acquisition Corp. from April 2005 to August 2007. Dr. Schaffer is the founder and Chief Executive Officer of The Lan Group, a venture capital firm specializing in healthcare and high technology investments. He has served as Chairman of several healthcare companies, including Radiologix, Inc. when it was private, and he has been an active investor for approximately thirty years on a variety of healthcare companies. Dr. Schaffer is the founder of Radiologix. Dr. Schaffer served as Chief Executive Officer and Chairman of the Board of Ide Imaging Group, P.C. from 1980 to 2001. Dr. Schaffer has served as a director on many healthcare boards of directors, including several health systems and more than twenty healthcare services and technology companies. Dr. Schaffer received his postgraduate radiology training at Harvard Medical School and Massachusetts General Hospital, where he served as Chief Resident. He has previously served as director of American CareSource Holdings, Inc., Radiologix, King Pharmaceuticals, Inc. and Allion Healthcare, Inc. (each a public company). Dr. Schaffer serves as a director on the boards of private companies Innovolt, Inc., Medical Tracking Solutions, Inc., InstantLabs, and Partners Imaging. Dr. Schaffer is a member of Alpha Omega Alpha, the national medical honor society. Dr. Schaffer has also been a Clinical Professor of Radiology at the University of Rochester School of Medicine as well as the Weill Cornell Medical College. Dr. Schaffer was chosen to serve as a director of PharmAthene because of his substantial experience as an executive, board member and investor in the healthcare and technology industries and his practical experience in the medical field.

John M. Gill

Mr. Gill has served as a member of the Board since August 2007 and from February 2004 to August 2007 served as a member of the Board of Directors and as Chairman of the Audit Committee of PharmAthene's predecessor, privately-held PharmAthene. On March 12, 2015, Mr. Gill became PharmAthene's President and Chief Executive Officer. From 2003 to 2013, Mr. Gill served as the President, Chief Executive Officer, co-founder and a Director of TetraLogic Pharmaceuticals Corporation, a public biopharmaceutical company. He is also an advisor or director of other private companies, the Kimmel Cancer Center at Thomas Jefferson University, and other non-profit community organizations. Mr. Gill has previously held positions at 3-Dimensional Pharmaceuticals and SmithKline Beecham. Mr. Gill earned a B.A. from Rutgers University. Mr. Gill was chosen to serve as a director of PharmAthene because of his executive and board experience in the pharmaceutical industry and his substantial financial knowledge and expertise.

EXECUTIVE AND DIRECTOR COMPENSATION

Introduction

This Compensation Discussion and Analysis addresses Altimmune's philosophy, programs and processes related to the compensation paid or awarded for fiscal year 2016 to the named executive officers listed in the Summary Compensation Table for Fiscal Year 2016 that follows this discussion.

The named executive officers for fiscal year 2016, which consist of the principal executive officer, the principal financial officer and the other most highly compensated executive officers for fiscal year 2016, are:

- William J. Enright, who serves as Chief Executive Officer and a member of the board of directors and is the principal executive officer;
- Elizabeth A. Czerepak, who serves as Chief Financial Officer and Executive Vice President, Corporate Development and is the principal financial officer;
- M. Scot Roberts, Ph.D., who serves as Chief Scientific Officer; and
- Sybil Tasker, M.D., who serves as Senior Vice President of Clinical Research and Development.

Fiscal Year 2016 Compensation

Compensation Philosophy and Objectives

Altimmune's compensation philosophy reflects the following general principles:

- Offer balanced total compensation, which may include base pay, short-term and long-term performance incentives, severance and retirement and other benefits, in an effort to satisfy stockholder, company and individual executive goals.
- Attract and retain high caliber executives and key personnel by offering total compensation that is competitive with that offered by similarly situated companies. This objective is referred to as "competitive compensation."
- Align the compensation of executives with the goals of Altimmune by conditioning a substantial portion of each named executive officer's compensation on a combination of short- and long-term performance, including cash bonuses and equity incentives. This objective is referred to as "performance incentives."
- Increase, when appropriate, the percentage of a named executive officer's total compensation that is "at risk" proportionate to his or her overall responsibilities, position and compensation.

Determination of Compensation

During fiscal year 2016, Altimmune's board of directors and the compensation committee made compensation decisions with respect to the named executive officers. The compensation committee relies on the significant experience of its directors in establishing compensation, as well as the input of Mr. Enright, the Chief Executive Officer, who has many years of experience in the industry. Mr. Enright evaluates each other named executive officer's overall performance and contributions to Altimmune at the end of each year and reports to the compensation committee his recommendations regarding each element of the other named executive officers' compensation to the compensation committee. Mr. Enright does not participate in any formal discussion with the compensation committee regarding decisions on his own compensation and he recuses himself from meetings when his compensation is discussed.

Elements of Altimmune's Executive Compensation Program

Historically, and for fiscal year 2016, Altimmune's executive compensation program consisted of the following elements:

- base salary;
- annual cash bonuses;
- stock options;

- health and retirement benefits and perquisites; and
- 401(k) plan.

Altimmune does not generally rely on formulaic guidelines for determining the mix or levels of cash and equity-based compensation, but rather maintains a flexible compensation program that allows Altimmune to adapt components and levels of compensation to motivate and reward individual executives within the context of its desire to attain certain financial and operational goals. Subjective factors considered in compensation determinations include an executive's skills and capabilities, contributions as a member of the executive management team, contributions to Altimmune's overall performance and whether the total compensation potential and structure is sufficient to ensure the retention of an executive when considering the compensation potential that may be available elsewhere.

Base Salaries

The base salaries of the named executive officers are an important part of their total compensation packages, and are intended to reflect their respective positions, duties and responsibilities.

Base salary is a visible and stable foundation of the "competitive compensation" program. On a prospective basis, Altimmune will continue to evaluate the mix of base salary, short-term incentive compensation and long-term incentive compensation to appropriately align the interests of the named executive officers with those of stockholders. As of the end of fiscal year 2016, the named executive officers were entitled to the following base salaries:

Named Executive Officer	Base Salary
William J. Enright	$ 300,000
Elizabeth Czerepak	$ 290,000
M. Scot Roberts, Ph.D.	$ 200,000
Sybil Tasker, M.D.	$ 290,000

At the closing of the mergers, pursuant to the terms of their respective employment agreements, the base salaries of Mr. Enright, Ms. Czerepak and Dr. Roberts will be increased to $375,000, $325,000 and $220,000, respectively.

Annual Bonus Program

Altimmune considers annual cash bonuses to be an important component of its "performance incentives." Annual cash bonuses are considered to be "at-risk" compensation, as the amount of annual cash bonuses received by the named executive officers varies based on achievement of individual and corporate performance objectives established by Altimmune's board of directors, taking into account recommendations of the compensation committee in consultation with Mr. Enright (except that Mr. Enright takes no part in the determination of his annual cash bonus).

During fiscal year 2016, the named executive officers were eligible to receive annual cash bonuses equal to the following percentages of their respective base salaries:

Named Executive Officer	Target Percentage
William J. Enright	50%
Elizabeth Czerepak	30%
M. Scot Roberts, Ph.D.	30%
Sybil Tasker, M.D.	30%

Each named executive officer's annual cash bonus is based 50% on achievement of corporate objectives and 50% on achievement of individual objectives. The individual and corporate objectives are generally established by the compensation committee in the beginning of each fiscal year and are designed to incentivize the named executive officers to drive the success of Altimmune's business and promote shareholder value. The chief executive officer recommends corporate and individual goals to the compensation committee, although the compensation committee ultimately determines the performance objectives upon which annual cash bonuses will be based. Each named executive officer's annual cash bonus is based upon achievement of

between three and six corporate objectives and three to six individual objectives, although the actual number of objectives may vary among the named executive officers and from year to year. For the chief executive officer, individual objectives are generally closely aligned with company-wide objectives, while the individual objectives for the other named executive officers generally relate to each named executive officer's area of responsibility. The compensation committee determines the weighting that will be given to each of the objectives, which is generally based on the importance of the objective to Altimmune's annual business plan.

The performance objectives (and their respective weightings) for the named executive officers' 2016 annual cash bonuses are set forth below.

Named Executive Officer	Objective	Weighting
William J. Enright	Ensure sufficient funding to meet corporate needs, including completion of successful IPO or identifying and implementing alternate financing strategies if the IPO is unsuccessful by year end	50%
	Ensure execution of clinical development strategy	30%
	Manage to financial targets	10%
	Refine long-term and strategic growth objectives	10%
Elizabeth A. Czerepak	Conduct monthly close process and develop quarterly and year-end financial statements pro formas and consolidations; complete 2015 US and UK audits and 2016 quarterly reviews	20%
	Lead process for filing S-1 registration statement; manage initial public offering process	50%
	Improve budget control systems	15%
	Institute public reporting procedures; implement process for conducting earnings calls. Assure appropriate payroll and tax reporting. Maintain corporate records	15%
M. Scot Roberts, Ph.D.	Complete successful IPO by end of fourth quarter	10%
	Execute on clinical and pre-clinical development strategy	40%
	Adhere to financial targets	30%
	Identify and acquire late-stage clinical assets or complementary technology or complete out-licensing transaction for one of Altimmune's existing assets	20%
Sybil Tasker, M.D.	Support successful IPO and corporate funding initiatives	20%
	Ensure execution of clinical development strategy	50%
	Manage to financial targets	15%
	Develop long-term strategic growth plan	15%

Based on the compensation committee's assessment of the 2016 performance of each named executive officer against his or her performance objectives, the compensation committee approved annual bonuses to the named executive officers in the following amounts: Mr. Enright — $150,000; Ms. Czerepak — $87,000; Dr. Roberts — $40,500; and Dr. Tasker — $50,569.

Equity-Based Compensation

Altimmune views equity-based compensation as a critical component of its balanced total compensation program. Equity-based compensation creates an ownership culture among employees that provides an incentive to contribute to the continued growth and development of the business and aligns interests of executives and managers with those of stockholders. The compensation committee takes into account the other elements of compensation paid to named executive officers, including base salary and annual cash bonuses, when determining the amount, if any, of equity grants to be made to named executive officers. Altimmune does not have a formal policy for determining the value of equity awards. Instead, the size of any equity award is based on the compensation committee's assessment of the other elements of each named executive officer's compensation to ensure that equity awards are consistent with such other elements to provide a total compensation package that will attract, motivate and retain talented senior executives to promote Altimmune's success and increase shareholder value.

Altimmune maintains the 2001 Employee Stock Option Plan, or 2001 Employee Plan, pursuant to which named executive officers have been granted stock options.

During fiscal year 2016, all of the named executive officers other than Mr. Enright were granted stock options under the 2001 Employee Plan.

Benefits

Altimmune provide the following benefits to its named executive officers. These are the same benefits provided to all Altimmune's employees:

- medical, dental and vision insurance;
- life insurance, accidental death and dismemberment and business travel and accident insurance;
- health and dependent care flexible spending accounts; and
- short and long-term disability.

Perquisites

The named executive officers are provided with limited perquisites to aid in the performance of their respective duties and to provide "competitive compensation" with executives with similar positions and levels of responsibilities.

401(k) Plan

Altimmune maintains a tax-qualified retirement plan (the "401(k) Plan") that provides eligible employees with an opportunity to save for retirement on a tax-advantaged basis. Eligible employees are able to participate in the 401(k) Plan as of the first day of the month following the date they meet the 401(k) Plan's eligibility requirements, and participants are able to defer up to 100% of their eligible compensation subject to applicable annual limits under the Code. All participants' interests in their deferrals are 100% vested when contributed. The 401(k) Plan permits Altimmune to make matching contributions and profit sharing contributions to eligible participants. Altimmune matches contributions 100% on the first 4% of contributions made by participants.

Tax and Accounting Considerations

While Altimmune's board of directors and its compensation committee generally consider the financial accounting and tax implications of executive compensation decisions for Altimmune's executive officers, neither element has been a material consideration in the compensation awarded to the named executive officers historically. In addition, Altimmune's compensation committee and its board of directors have considered the potential future effects of Section 162(m) of the Code on the compensation paid to the named executive officers. Section 162(m) disallows a tax deduction for any publicly held corporation for individual compensation exceeding $1 million in any taxable year for the chief executive officer and each of the other named executive officers (other than the chief financial officer), unless compensation is performance-based. Compensation is generally "performance-based" if it is determined using pre-established objective formulas and criteria approved by stockholders within the past five years.

Altimmune's compensation committee does not believe that compensation decisions should be determined solely by how much compensation is deductible for federal income tax purposes. As a result, Altimmune's compensation committee retains the discretion to authorize payments that may not be deductible if it believes that such payments are in the best interests of Altimmune and its stockholders. Moreover, changes in applicable tax laws and regulations as well as factors beyond the control of the compensation committee can adversely impact the deductibility of compensation paid to Altimmune's executive officers who are covered by Section 162(m).

Summary Compensation Table for Fiscal Year 2016

The following table contains information about the compensation paid to or earned by each of Altimmune's named executive officers.

Name and Principal Position	Year	Salary $	Bonus $	Option Awards $[1]	All Other Compensation $[2]	Total $
William Enright,	2016	322,917	150,000	—	10,960	483,877
President and Chief	2015	300,000	200,000	—	10,960	510,960
Executive Officer[3]	2014	300,000[4]		—	10,742	310,742
Elizabeth A. Czerepak,	2016	290,000	87,000	167,000	10,600	554,600
Chief Financial Officer[5]	2015	208,763	105,224[6]	1,695,102	5,317	2,014,406
M. Scot Roberts, Ph.D.,	2016	200,000	40,500	100,200	5,809	346,509
Chief Scientific Officer	2015	186,513	60,000	—	8,064	254,577
	2014	180,193	—	101,259	8,937	290,389
Sybil Tasker, Sr.	2016	210,994	50,569	434,200	5,800	701,563
Vice President[7]						

(1) Amounts in this column reflect the aggregate grant date fair value of stock options granted during the covered year computed in accordance with the provisions of FASB ASC Topic 718. The assumptions used to calculate the amounts for fiscal years 2016 and 2015 are discussed in the section of this proxy statement/prospectus/consent solicitation entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies and Significant Judgments and Estimates — Stock-Based Compensation."

(2) Amounts in this column for fiscal year 2016 include employer contributions for each executive under Altimmune's 401(k) plan of $10,600, $10,600, $5,809 and $5,800 for Mr. Enright, Ms. Czerepak, Dr. Roberts and Dr. Tasker, respectively.

(3) Compensation for Mr. Enright includes $22,917 of base salary and $50,000 in bonus that was earned by Mr. Enright in fiscal years prior to 2014 but was paid by Altimmune during 2016.

(4) Excludes $41,667 of salary paid to Mr. Enright in 2014 for services performed by him with respect to the periods prior to 2014.

(5) Ms. Czerepak commenced employment with Altimmune on April 8, 2015.

(6) This amount represents a signing bonus of $39,974 paid to Ms. Czerepak upon commencement of her employment with Altimmune, as well as an annual bonus of $62,250 paid to Ms. Czerepak in respect of 2015 performance.

(7) Dr. Tasker commenced employment with Altimmune on April 4, 2016.

Altimmune has no plans in place that provide for the payment of retirement benefits or benefits that will be paid primarily following retirement including, but not limited to, tax-qualified deferred benefit plans, supplemental executive retirement plans, tax-qualified deferred contribution plans and non-qualified deferred contribution plans, except that Altimmune maintains a defined contribution "safe harbor" 401(k) plan in which all eligible employees may participate by making elective deferral contributions to the plan. Altimmune makes a matching contribution of 100% on the first 4% of contributions made by participants, including the named executive officers.

Grants of Plan-Based Awards in 2016

Name	Grant Date	Option Awards: Number of Securities Underlying Options (#)	Exercise or Base Price of Option Awards ($/Sh)	Grant Date Fair Value of Stock and Option Awards[1]
William J. Enright	—	—	—	—
Elizabeth A. Czerepak	04/08/2016	25,000[2]	10.02	$ 167,000
M. Scot Roberts	04/08/2016	15,000[2]	10.02	$ 100,200
Sybil Tasker	04/08/2016	65,000[2]	10.02	$ 434,200

(1) This column reflects the full grant date fair value of stock option awards computed in accordance with FASB ASC 718, disregarding for this purpose the estimate of forfeitures related to service-based vesting conditions, granted in fiscal 2016. The assumptions used to calculate this amount are discussed in the section of this proxy statement/prospectus/consent solicitation entitled “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies and Significant Judgments and Estimates — Stock-Based Compensation.”

(2) These options vest 25% on each of the first four anniversaries of the grant date. These options (and the exercise price indicated above) have not been adjusted to reflect the Exchange Ratio between PharmAthene common stock and Altimmune common stock determined in accordance with the Merger Agreement and described above, and do not reflect any Reverse Split adjustments.

Outstanding Equity Awards at Fiscal Year-End

The following table sets forth information regarding equity awards held by Altimmune's named executive officers as of December 31, 2016. Option amounts and exercise prices shown below have not been adjusted to reflect the Exchange Ratio between PharmAthene common stock and Altimmune common stock determined in accordance with the Merger Agreement and described above, and do not reflect any Reverse Split adjustments.

	Option Awards			
Name	Number of Securities Underlying Unexercised Options Exercisable	Number of Securities Underlying Unexercised Options Unexercisable	Option Exercise Price	Option Expiration Date
William Enright	168,050	—	$ 0.06	05/31/2018
	95,640	—	0.06	12/31/2019
	122,456	—	0.25	12/04/2021
	244,755	—	0.25	12/04/2021
Elizabeth A. Czerepak	99,339	139,072(1)	$ 10.00	05/28/2025
	—	25,000(2)	10.02	04/07/2026
M. Scot Roberts, Ph.D.	73,587	—	$ 0.06	12/05/2022
	8,966	2,989(3)	0.44	12/04/2023
	5,978	5,977(4)	1.94	12/03/2024
	—	15,000(2)	10.02	04/07/2026
Sybil Tasker, M.D.	—	65,000(5)	10.02	04/07/2026

(1) These options vest in monthly installments of 4,967 options per month.

(2) These options vest in four equal installments on March 3, 2017, 2018, 2019 and 2020.

(3) These options vest on December 5, 2017.

(4) These options vest in two equal installments on December 4, 2017 and December 4, 2018.

(5) These options vest in four equal installments on April 8, 2017, 2018, 2019 and 2020.

Option Exercises and Stock Vested

None of Altimmune's named executive officers exercised stock options or had shares that vested during fiscal year 2016.

Summary of Potential Payments Upon Termination and Change in Control

This section describes payments that may be made to Altimmune's named executive officers upon several events of termination, or upon a change in control, assuming such event occurred on the last day of fiscal year 2016.

William J. Enright

- Upon a termination without cause or resignation for good reason, Mr. Enright will be eligible to receive 12 months' continued base salary and 12 months' benefit continuation. In addition, Mr. Enright will receive any earned but unpaid annual bonus for the year of termination.
- Upon a termination without cause or resignation for good reason upon or within one year following a change in control, Mr. Enright will be eligible to receive an amount equal to the sum of 18 months' base salary plus his target annual bonus for the year of termination, as well as 12 months' benefit continuation and full vesting of all outstanding equity awards then held by him. In addition, Mr. Enright will receive any earned but unpaid annual bonus for the year of termination.

Elizabeth A. Czerepak, M. Scot Roberts and Sybil Tasker

- Upon a termination without cause or resignation for good reason, each of Ms. Czerepak and Drs. Roberts and Tasker will be eligible to receive six months' continued base salary and six months' benefit continuation. In addition, each of Ms. Czerepak and Drs. Roberts and Tasker will receive any earned but unpaid annual bonus for the year of termination.
- Upon a termination without cause or resignation for good reason upon or within one year following a change in control, each of Ms. Czerepak and Drs. Roberts and Tasker will be eligible to receive an amount equal to the sum of 12 months' base salary plus his or her target annual bonus for the year of termination, as well as 12 months' benefit continuation and full vesting of all outstanding equity awards then held by him or her. In addition, each of Ms. Czerepak and Drs. Roberts and Tasker will receive any earned but unpaid annual bonus for the year of termination.

The following table sets forth information on the potential payments to Altimmune's named executive officers upon certain terminations or in connection with a change in control, assuming such termination or change in control occurred on December 31, 2016:

Name	Cash Payments	Accelerated Vesting of Equity	Benefit Continuation
William J. Enright			
Termination without Cause or resignation for Good Reason (other than in connection with a change in control)	$ 450,000	—	$ 23,448
Termination without Cause or resignation in connection with a change in control	$ 600,000	—	$ 23,448
Elizabeth A. Czerepak			
Termination without Cause or resignation for Good Reason (other than in connection with a change in control)	$ 332,000	—	$ 14,742
Termination without Cause or resignation in connection with a change in control	$ 377,000	—	$ 14,472
M. Scot Roberts			
Termination without Cause or resignation for Good Reason (other than in connection with a change in control)	$ 160,000	—	$ 7,181
Termination without Cause or resignation in connection with a change in control	$ 260,000	$ 55,410[(1)]	$ 7,181
Sybil Tasker			
Termination without Cause or resignation for Good Reason (other than in connection with a change in control)	$ 332,000	—	$ 11,703
Termination without Cause or resignation in connection with a change in control	$ 377,000	—	$ 11,703

(1) Amounts represent the extent to which the fair market value of Altimmune's common stock as of December 31, 2016 exceeds the exercise price of the accelerated options.

Employment Agreement with William Enright

Altimmune entered into an amended and restated employment agreement with William Enright, the expected President and Chief Executive Officer of the combined company, that will become effective on the date of closing of the mergers. The amended agreement will have an initial term that will expire on

December 31, 2018. Unless either the combined company or Mr. Enright elect not to renew the agreement, Mr. Enright's agreement will automatically renew for successive one-year terms effective January 1, 2019 and each January 1 thereafter.

Under the agreement, Mr. Enright will receive a base salary of $375,000 and will be eligible to receive an annual discretionary incentive bonus of up to 50% of his base salary based on achievement of performance goals established by the compensation committee of the combined company's board of directors. Mr. Enright will be eligible to participate in the combined company's employee benefit plans made available to its similarly situated senior executives. In addition, the combined company will pay the premium costs for a term life insurance policy for Mr. Enright with a benefit equal to Mr. Enright's base salary and for short- and long-term disability plans that provide for an annual benefit of at least 60% of Mr. Enright's base salary for as long as the disability continues. During the term of Mr. Enright's employment, and subject to applicable securities laws or listing standards, the combined company will use its best efforts to cause Mr. Enright to be nominated for election as a member of the combined company's board of directors at each annual meeting of stockholders at which Mr. Enright is up for election.

On the effective date of the agreement, the combined company will grant Mr. Enright an option to purchase a number of shares of common stock of the combined company equal to the number of shares issuable to a holder of 133,395 shares of Altimmune Common Stock prior to the merger. Such option will be granted at an exercise price equal to the closing price of the combined company's common stock on the NYSE MKT on the date the mergers become effective. On the first anniversary of the date of grant, 25% of the unvested portion of the option will become vested and exercisable, and the aggregate remaining unvested portion will vest and become exercisable in equal monthly installments over the 36-month period following such anniversary date. However, the agreement also provides that, if the compensation committee of the combined company's board of directors, in its sole discretion, determines that the consummation of the mergers was successful, then 50% of the unvested portion of the option shall become immediately vested and exercisable. The option will be granted under the terms of the PharmAthene 2017 Omnibus Incentive Plan.

In the event of an employment termination, the combined company will pay Mr. Enright his earned but unpaid base salary through the date of termination, accrued but unused vacation pay, unreimbursed business expenses and such employee benefits as may be due to Mr. Enright under the terms of the applicable benefit plans (the "Accrued Benefits").

If the combined company terminates Mr. Enright's employment without cause or Mr. Enright resigns his employment for good reason, in addition to the Accrued Benefits, Mr. Enright will be entitled to receive 12 months of base salary continuation payments, 12 months of continued coverage under the health insurance plans in which Mr. Enright participates at the time of the termination and payment of any unpaid prior year's annual bonus. If such employment termination or resignation occurs within one year following a change of control, Mr. Enright is entitled to receive an amount equal to the sum of 18 months of his base salary plus his target annual discretionary incentive bonus for the year of termination, 12 months of continued coverage under the health insurance plans in which Mr. Enright participates at the time of the termination, payment of any unpaid prior year's annual bonus and, in addition, all of Mr. Enright's outstanding unvested equity awards will become vested. If any payments, whether under Mr. Enright's employment agreement or otherwise, would be subject to the golden parachute excise tax under Section 4999 of the Code, such payments will be reduced to the extent necessary to avoid the excise tax if doing so would result in a greater net after tax payment to Mr. Enright. Mr. Enright is required to execute and not revoke a release of claims in order to be eligible to receive severance payments or benefits, other than the Accrued Benefits.

Under the agreement, "cause" generally means Mr. Enright's (i) material breach of his fiduciary duties, (ii) material breach of his employment agreement, (iii) willful failure or refusal to follow written policies, (iv) conviction of, or plea of guilty or *nolo contendere* to, a felony, or (v) continuing and willful refusal to act as directed by the combined company's board of directors. Under the agreement, "good reason" generally means (i) a reduction in Mr. Enright's base salary or target annual bonus opportunity, (ii) a material diminution in Mr. Enright's authorities, duties or responsibilities, or (iii) a relocation of Mr. Enright's principal place of employment more than 50 miles from Gaithersburg, Maryland.

Mr. Enright will be subject to restrictive covenants during the term of his employment and for a period of one year following the termination of his employment. In particular, Mr. Enright will be prohibited from soliciting the combined company's customers, clients and employees and from engaging in sales, marketing or related activities on behalf of himself or another entity that directly competes with the combined company and does business in the same geographical areas in which the combined company does business, except that the post-employment restriction on competition does not apply if Mr. Enright's employment is terminated for cause.

Employment Agreements with Elizabeth A. Czerepak, M. Scot Roberts and Sybil Tasker

Altimmune entered into an employment agreement with each of Elizabeth A. Czerepak, the Chief Financial Officer and Executive Vice President, Corporate Development, and M. Scot Roberts, Ph.D., the Chief Scientific Officer, that became effective on December 7, 2015. In addition, Altimmune entered into an employment agreement with Sybil Tasker, M.D., the Senior Vice President of Clinical Research and Development. Each of these agreements provides for an initial term that will expire on December 31, 2017. Unless either party elects not to renew the agreement, the agreement will automatically renew for successive one-year terms effective January 1, 2018 and each January 1 thereafter.

The agreements provide each of Ms. Czerepak and Dr. Tasker with an initial base salary of $290,000 and Dr. Roberts with an initial base salary of $200,000. Upon the closing of the Mergers, the base salary amounts for Ms. Czerepak and Dr. Roberts will be increased to $325,000 and $220,000, respectively. In addition, Ms. Czerepak and Drs. Roberts and Tasker will each be eligible to receive an annual discretionary incentive bonus of up to 30% of their respective base salaries based on achievement of performance goals established by the compensation committee of Altimmune's board of directors. Ms. Czerepak and Drs. Roberts and Tasker will be eligible to participate in Altimmune's employee benefit plans made available to its similarly situated senior executives.

If, prior to a change in control, the combined company terminates the employment of Ms. Czerepak or Drs. Roberts or Tasker without cause or if such executive resigns for good reason, in addition to the executive's Accrued Benefits (to which the executive is entitled on any termination of employment), the executive will be entitled to receive severance equal to six months of base salary continuation payments, six months of continued coverage under the health insurance plans in which the executive participated at the time of the termination and payment of any unpaid prior year's annual bonus. If such employment termination or resignation occurs within the one-year period following a change in control, the executive would be entitled to receive a severance amount equal to the sum of 12 months of the executive's base salary plus the executive's target annual discretionary incentive bonus for the year of termination, six months of continued coverage under the health insurance plans in which the executive participates at the time of termination, payment of any unpaid prior year's annual bonus and, in addition, all of the executive's outstanding unvested equity awards will become vested. The agreements also provide that if any payments, whether under the agreements or otherwise, payable to the executive would be subject to the golden parachute excise tax under Section 4999 of the Code, such payments will be reduced to the extent necessary to avoid the excise tax if doing so would result in a greater net after tax payment to the executive. The executive is required to execute and not revoke a release of claims in Altimmune's favor in order to be eligible to receive the severance payments and benefits.

Under the agreements with Ms. Czerepak and Drs. Roberts and Tasker, "cause" generally means the executive's (i) material breach of her or his fiduciary duties to us, (ii) material breach of her or his agreement, (iii) willful failure or refusal to follow Altimmune's written policies, (iv) conviction of, or plea of guilty or *nolo contendere* to, a felony or (v) continuing and willful failure to act as directed by Altimmune's board of directors or its chief executive officer. Under the agreements, "good reason" generally means (i) a reduction in the executive's base salary or target annual bonus opportunity, (ii) a material diminution in authority, duties or responsibilities or (iii) a relocation of the executive's principal place of employment more than 50 miles from Gaithersburg, Maryland.

Under the agreements, Ms. Czerepak and Drs. Roberts and Tasker will be subject to restrictive covenants during the term of their employment and for a period of six months following termination of employment. In particular, the executives will be prohibited from soliciting the combined company's customers, clients and

employees and from engaging in sales, marketing or related activities on the executive's behalf or another entity that directly competes with the combined company.

2016 Director Compensation

Altimmune

The following table sets forth information concerning the 2016 compensation earned by non-employee directors who will continue to serve as directors of the combined company.

Name of Director[1]	Fees Earned or Paid in Cash[2]	Total
David J. Drutz, M.D.	$ 52,250	$ 52,250
Philip L. Hodges	—	—
Klaus O. Schafer, M.D., MPH	39,750	39,750

(1) At the end of 2016, Altimmune's non-employee directors held the following stock option awards: Dr. Drutz — 30,677 options and Dr. Schafer — 13,547 options. Mr. Hodges did not hold any stock option awards at the end of 2016. As of December 31, 2016, no outstanding stock awards (vested or unvested) were held by these non-employee directors. The foregoing option amounts have not been adjusted to reflect the Exchange Ratio between PharmAthene common stock and Altimmune common stock determined in accordance with the Merger Agreement and described above, and do not reflect any Reverse Split adjustments.

(2) These amounts were earned in 2016 but have not been paid by Altimmune. These amounts exclude a total of $515,949 which was earned in periods prior to 2016 but has not been paid by Altimmune.

The total amounts of director fee compensation earned by each of Drs. Drutz and Schafer and Mr. Rice (a former director) through fiscal year 2016 but that have not been paid by Altimmune are $343,000, $75,000, and $190,000, respectively. Pursuant to an agreement between Altimmune and each of the foregoing directors, these amounts will be paid in cash or converted to equity in connection with the closing of the Mergers.

Altimmune did not grant stock options to any non-employee directors during fiscal year 2016.

PharmAthene

The following table sets forth the cash and non-cash compensation received during the fiscal year ended December 31, 2016 by those PharmAthene directors who will be serving on the Board of Directors of the combined company following the mergers.

For the Fiscal Year Ended December 31, 2016

Name	Fees earned or paid in cash ($)[1]	Stock Awards ($)[2]	Option Awards ($)[2]	Total ($)
John M. Gill	—	1,098,978	134,972	1,233,950
Mitchel Sayare, Ph.D.	85,500	—	24,297	109,797
Derace Schaffer, M.D.	58,000	—	24,297	82,297

(1) Fees earned are based on membership on the PharmAthene Board of Directors, committee membership and leadership positions. In addition to the other compensation received, members of the PharmAthene Board of Directors are reimbursed for the reasonable out-of-pocket costs incurred by them in connection with travel to and from Board of Directors' and committee meetings. None of such reimbursements amounted to $10,000 or more in 2016. The amounts reflected in this column represent the cash fees earned by non-executive directors for services during 2016. Of these amounts, the following amounts were paid in 2017 with respect to 2016 services: Sayare: $21,375 and Schaffer: $14,500. The amounts reflected in this column do not include the following cash payments made to directors during 2016 for 2015 services: Sayare: $21,375 and Schaffer: $14,500.

(2) The amounts in this column represent the aggregate grant date fair value for stock awards and stock option awards issued during 2016 computed in accordance with FAS ASC Topic 718. As of December 31, 2016, there were no stock awards outstanding (vested and unvested) for Mr. Gill, Dr. Sayare or Dr. Schaffer. As of December 31, 2016, the aggregate number of option awards outstanding (vested and unvested) for Mr. Gill was 80,000, for Dr. Sayare was 20,000 and for Dr. Schaffer was 60,000. The foregoing option amounts have not been adjusted to reflect the Exchange Ratio between PharmAthene common stock and Altimmune common stock determined in accordance with the Merger Agreement and described above, and do not reflect any Reverse Split adjustments.

In connection with the consummation of the mergers, the combined company intends to approve and implement a compensation program for its non-employee directors.

PRINCIPAL STOCKHOLDERS OF PHARMATHENE

The following table sets forth information, as it was available to PharmAthene on March 22, 2017 except as otherwise indicated, based on information furnished by the persons named below, obtained from PharmAthene's transfer agent and/or obtained from certain filings made by the persons named below with the SEC, with respect to the beneficial ownership of shares of the PharmAthene common stock by (i) each person known by PharmAthene to be the beneficial owner of more than 5% of the outstanding shares of PharmAthene common stock (inclusion in this table shall not be deemed an admission of affiliate status), (ii) each director, nominee for director and Named Executive Officer and (iii) all current directors and executive officers as a group. Except as indicated in the footnotes to the table, the persons named in the table have sole voting and investment power with respect to all shares of PharmAthene common stock shown as beneficially owned by them.

Name of Beneficial Owner[1]	Number of Shares Beneficially Owned	Percentage of Outstanding Shares[2]
Eric I. Richman[3]**	1,643,055	2.36%
Derace L. Schaffer, M.D.[4]**	1,207,711	1.75%
John M. Gill[5]**	902,244	1.31%
Mitchel Sayare, Ph.D.[6]**	295,500	*
Steven St. Peter, M.D.[7]**	205,004	*
Jeffrey W. Runge, M.D.[8]**	197,700	*
Philip MacNeill[9]	146,033	*
All directors and executive officers as a group (7 persons)	4,597,247	6.59%

* Less than 1.0%

** Director

(1) Unless otherwise indicated in other footnotes to this table, the address for each beneficial owner is c/o PharmAthene, Inc., One Park Place, Suite 450, Annapolis, MD 21401.

(2) Based on 68,815,195 shares of common stock as of March 22, 2017, all of which were outstanding on the records of PharmAthene's transfer agent. Beneficial ownership is determined in accordance with the rules and regulations of the SEC. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, shares of PharmAthene common stock underlying warrants, notes or subject to options held by that person that are currently exercisable or exercisable within 60 days are deemed outstanding. Such shares, however, are not deemed outstanding for the purposes of computing the percentage ownership of any other person. Except as indicated in the following footnotes or pursuant to applicable community property laws, each stockholder named in the table has sole voting and investment power with respect to the shares set forth opposite such stockholder’s name.

(3) Includes 159,516 shares granted as restricted stock and not relinquished for tax purposes (included herein irrespective of vesting date) and options to purchase a total of 735,000 shares of common stock (representing the portion of options to purchase a total of 950,660 shares of common stock that are exercisable as of March 22, 2017 or will become exercisable within 60 days thereof). Mr. Richman is a member of PharmAthene's Board of Directors and served as PharmAthene's President and Chief Executive Officer through March 11, 2015.

(4) Includes options to purchase 40,000 shares of common stock, all of which are exercisable. Dr. Schaffer is a member of PharmAthene's Board of Directors.

(5) Includes 612,244 shares granted as restricted stock and not relinquished for tax purposes (included herein irrespective of vesting date) and options to purchase a total of 80,000 shares of common stock, all of which are exercisable. Mr. Gill is a member of PharmAthene's Board of Directors and was appointed our President and Chief Executive Officer effective March 12, 2015.

(6) Includes options to purchase a total of 20,000 shares of common stock, all of which are exercisable. Dr. Sayare is the Chairman of PharmAthene's Board of Directors.

(7) Dr. St. Peter is a member of PharmAthene's Board of Directors.

(8) Dr. Runge is a member of PharmAthene's Board of Directors.

(9) Includes 50,000 shares granted as restricted stock and not relinquished for tax purposes (included herein irrespective of vesting date) and options to purchase 19,687 shares of common stock (representing the portion of options to purchase a total of 59,999 shares of common stock that are exercisable as of March 22, 2017 or will become exercisable within 60 days thereof). Mr. MacNeill was appointed PharmAthene's Vice President, Chief Financial Officer, Treasurer and Secretary as of May 1, 2015.

PRINCIPAL STOCKHOLDERS OF ALTIMMUNE

The following table sets forth information relating to the beneficial ownership of Altimmune's capital stock as of March 22, 2017, by (i) each person, or group of affiliated persons, known by management to beneficially own more than 5% of Altimmune's outstanding shares of capital stock; (ii) each Altimmune director; (iii) each Altimmune named executive officer, each of whom will continue as an executive officer of the combined company; and (iv) all Altimmune directors and executive officers as a group.

The percentage of Altimmune capital stock beneficially owned is computed on the basis of 9,195,906 shares of its Class A Common Stock, 38,836 shares of its Class B Common Stock and 800,000 shares of its Series B Convertible Preferred Stock outstanding as of March 22, 2017, for an aggregate of 10,034,742 shares of common stock (assuming conversion of all Class B Common Stock and Series B Convertible Preferred Stock into Class A Common Stock on a 1-for-1 basis, and re-designation of Altimmune's Class A Common Stock as "common stock"). The amounts in the table below do not include an additional 527,057 shares of Class A Common Stock that may be issued pursuant to the Financing Agreement prior to the closing of the Merger Agreement.

Unless otherwise indicated below, the address for each beneficial owner listed is c/o Altimmune, Inc., 19 Firstfield Road, Suite 200, Gaithersburg, Maryland 20878.

Name of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
5% or Greater Stockholders:		
Novartis Bioventures Ltd.(1)	2,217,436	21.3%
Entities affiliated with Truffle Capital(2)	2,037,901	19.7%
Entities affiliated with Redmont Capital(3)	1,762,077	17.5%
Entities affiliated with HealthCap(4)	1,556,745	15.5%
Directors and Named Executive Officers:		
William Enright(5)	654,645	6.1%
Elizabeth A. Czerepak(6)	130,423	1.3%
M. Scot Roberts, Ph.D.(7)	92,274	*
David Drutz, M.D.(8)	30,677	*
Christine Brennan(9)	2,217,436	21.3%
Philip Hodges(10)	1,762,077	17.5%
Philippe Pouletty, M.D.(11)	2,037,901	19.7%
Klaus Schafer, M.D.(12)	13,547	*
Mårten Steen, M.D., Ph.D.(13)	1,556,745	15.5%
All Executive Officers and Directors As a Group (10 persons)(14)	8,511,975	72.6%

* Represents beneficial ownership of less than one percent of Altimmune's outstanding common stock.

(1) Consists of 1,527,497 shares of Class A Common Stock, 12,061 shares of common stock issuable upon conversion of Class B Common Stock and 285,738 shares of common stock issuable upon conversion of preferred stock, as well as 739 shares of common stock that can be acquired upon exercise of outstanding options and 391,401 shares of common stock issuable upon the exercise of warrants, in each case within 60 days of March 22, 2017, all held by Novartis Bioventures Ltd., a Bermuda corporation. The board of directors of Novartis Bioventures Ltd., comprised of Simon Zivi, Michael Jones and Timothy Faries, has sole voting and investment control and power over such shares. None of the members of its board of directors has individual voting and investment power with respect to such shares and disclaims beneficial ownership of such shares. Christine Brennan, a member of Altimmune's board of directors, is also an employee of a corporation that is affiliated with Novartis Bioventures Ltd. Ms. Brennan disclaims beneficial ownership of the shares held by Novartis Bioventures Ltd., except to the extent of her pecuniary interest arising as a result of her employment by such affiliate of Novartis Bioventures Ltd. Novartis Bioventures Ltd. is an indirectly owned subsidiary of Novartis AG. The address of Novartis Bioventures Ltd. is 131 Front Street, Hamilton, Bermuda HM 12. The amounts shown in the table above do not reflect 274,629 shares of Class A common stock that will be acquired by Novartis Bioventures Ltd. and Novartis International Pharmaceutical Investment Ltd. pursuant to the Altimmune Financing

Agreement, assuming the conversion of all convertible notes and the exercise of all warrants acquired pursuant to the Financing Agreement prior to the closing of the Merger Agreement.

(2) Consists of 549,832 shares of Class A Common Stock, 5,554 shares of common stock issuable upon conversion of Class B Common Stock and 485 shares of common stock that can be acquired upon exercise of outstanding options within 60 days of March 22, 2017 held by UFF Innovation 5 (UFF5) FCPI; 1,658 shares of Class A Common Stock, 17 shares of common stock issuable upon conversion of Class B Common Stock and 21 shares of common stock that can be acquired upon exercise of outstanding options within 60 days of March 22, 2017 held by Europe Innovation 2004 (E104) FCPI; 2,343 shares of Class A Common Stock, 24 shares of common stock issuable upon conversion of Class B Common Stock and 30 shares of common stock that can be acquired upon exercise of outstanding options within 60 days of March 22, 2017 held by Europe Innovation 2006 (E106) FCPI; 242,760 shares of Class A Common Stock, 2,452 shares of common stock issuable upon conversion of Class B Common Stock and 203 shares of common stock that can be acquired upon exercise of outstanding options within 60 days of March 22, 2017 held by Truffle Cap II (TCII) FCPR; 135,762 shares of Class A Common Stock and 1,371 shares of common stock issuable upon conversion of Class B Common Stock held by UFF Innovation 14 FCPI; 154,543 shares of Class A Common Stock and 1,181 shares of common stock issuable upon conversion of Class B Common Stock held by Truffle Fortune 5 FCPI; 41,533 shares of Class A Common Stock, 83,595 shares of common stock issuable upon conversion of preferred stock and 114,467 shares of common stock issuable upon the exercise of warrants within 60 days of March 22, 2017 held by Truffle Fortune 6 FCPI; 48,788 shares of Class A Common Stock and 493 shares of common stock issuable upon conversion of Class B Common Stock held by UFF Innovation 15 FCPI; 201,199 shares of Class A Common Stock; 962 shares of common stock issuable upon conversion of Class B Common Stock held by UFF Innovation 16 FCPI; and 81,344 shares of Class A Common Stock, 95,357 shares of common stock issuable upon conversion of preferred stock and 130,621 shares of common stock issuable upon the exercise of warrants within 60 days of March 22, 2017 held by UFF Innovation 17 FCPI and 59,640 shares of common stock issuable upon conversion of preferred stock and 81,696 shares of common stock issuable upon the exercise of warrants within 60 days of March 22, 2017 held by Truffle InnoCroissance 2015 FCPI. Each of UFF Innovation 5 (UFF5) FCPI, Europe Innovation 2004 (E104) FCPI, Europe Innovation 2006 (E106) FCPI, UFF Innovation 14 FCPI, Truffle Fortune 5 FCPI, Truffle Fortune 6 FCPI, UFF Innovation 15 FCPI, UFF Innovation 16 FCPI, UFF Innovation 17 FCPI and Truffle InnoCroissance 2015 FCPI are FCPIs (Fonds Commun de Placement dans l'Innovation), which are tax efficient French collective investment funds. Truffle Cap II (TCII) FCPR is a FCPR (Fonds Commun de Placement à Risque), which is a French venture capital fund for institutional subscribers. Truffle Capital S.A.S., a French société par actions simplifiée, is the fund manager for each of the foregoing funds and as such manages and controls all voting and dispositive rights to shares held by each such fund. Philippe Pouletty, Bernard-Louis Roques and Henri Moulard may be deemed to possess voting and dispositive control over the shares held by funds managed by Truffle Capital S.A.S. and may be deemed to have indirect beneficial ownership of such shares. Each of these individuals disclaims beneficial ownership of such shares, except to the extent of their respective pecuniary interests therein. The address of each of the foregoing funds and Truffle Capital S.A.S. is c/o Truffle Capital S.A.S., 5, rue de la Baume, 75008 Paris, France. The amounts shown in the table above do not reflect 45,800 shares of Class A common stock that will be acquired by UFF Innovation 14 FCPI, UFF Innovation 15 FCPI and Truffle Fortune 4 FCPI pursuant to the Altimmune Financing Agreement, assuming the conversion of all convertible notes and the exercise of all warrants acquired pursuant to the Altimmune Financing Agreement prior to the closing of the Merger Agreement.

(3) Consists of 1,706,662 shares of Class A Common Stock held by Redmont VAXN Capital Holdings, LLC, a Delaware limited liability company ("RVCH"), 49,469 shares of common stock issuable upon the exercise of warrants held by Redmont Venture Partners, Inc., a Delaware corporation ("RVP"), within 60 days of March 22, 2017, and 5,946 shares of Class A Common Stock held by Paradigm Venture Partners, L.P., a Delaware limited partnership ("PVP"). Philip Hodges has sole voting and dispositive control with respect to all securities held by RVCH, RVP and PVP. Mr. Hodges disclaims beneficial ownership of such securities, except to the extent of his pecuniary interest therein. The address of each of RVCH, RVP, PVP and Philip Hodges is c/o Redmont Capital, 820 Shades Creek Parkway, Suite 1200, Birmingham, AL 35209.

(4) Consists of 1,373,774 shares of Class A Common Stock, 11,887 shares of common stock issuable upon conversion of Class B Common Stock and 147,750 shares of common stock issuable upon conversion of preferred stock held by HealthCap V. L.P., a Delaware registered limited partnership, and 20,903 shares of Class A Common Stock, 181 shares of common stock issuable upon conversion of Class B Common

Stock and 2,250 shares of common stock issuable upon conversion of preferred stock held by OFCO Club V ("OFCO"), a Swedish non-registered partnership. HealthCap V GP SA, L.L.C. ("HCSA") is the sole general partner of HealthCap V, L.P. HCSA has voting and dispositive power over the shares held by HealthCap V, L.P. HCSA disclaims beneficial ownership of such shares, except to the extent of its pecuniary interest therein. Peder Fredrikson and Francois Kaiser, the members of the board of HCSA, share voting and dispositive power over the shares held by HealthCap V, L.P. and may be deemed to have indirect beneficial ownership of the shares held by such entities. The members of the board of HCSA disclaim beneficial ownership of shares held by HealthCap V, L.P. except to the extent of any pecuniary interest therein. The address of HealthCap V, L.P. is c/o HealthCap V GP SA, 18, Avenue d'Ouchy, 1006 Lausanne, Switzerland. OFP V Advisor AB, L.L.C. ("OFP AB") is a member of OFCO and has voting and dispositive control over the shares held by OFCO. Bjorn Ingemar Odlander, Per Olof Eriksson, and Ann Christine Forsberg, the members of the board of OFP AB, may be deemed to possess voting and dispositive control over the shares held by OFCO and may be deemed to have indirect beneficial ownership of the shares held by OFCO. OFP AB and each of its members of the board disclaim beneficial ownership of the shares held by OFCO, except to the extent of their respective actual pecuniary interest therein. The address of OFCO Club V is c/o OFP V Advisor AB, Engelbrektsplan 1, 114 34 Stockholm, Sweden. The amounts shown in the table above do not reflect 20,818 shares of Class A common stock that will be acquired by HealthCap V LP and OFCO Club V pursuant to the Altimmune Financing Agreement, assuming the conversion of all convertible notes and the exercise of all warrants acquired pursuant to the Financing Agreement prior to the closing of the Merger Agreement.

(5) Consists of 23,744 shares of Class A Common Stock and 630,901 shares of common stock that can be acquired upon the exercise of outstanding options within 60 days of March 22, 2017.

(6) Consists of 130,423 shares of common stock that can be acquired upon the exercise of outstanding options within 60 days of March 22, 2017.

(7) Consists of 92,274 shares of common stock that can be acquired upon the exercise of outstanding options within 60 days of March 22, 2017.

(8) Consists of 30,677 shares of common stock that can be acquired upon the exercise of outstanding options within 60 days of March 22, 2017. The amounts shown in the table above do not reflect 27,483 shares of Class A common stock that will be acquired by David Drutz, M.D. pursuant to the Financing Agreement, assuming the conversion of all convertible notes and the exercise of all warrants acquired pursuant to the Financing Agreement prior to the closing of the Merger Agreement.

(9) Consists solely of shares held by Novartis Bioventures Ltd. as described in footnote 1 above. Ms. Brennan disclaims beneficial ownership of the shares referred to in footnote 1 above except to the extent of her pecuniary interest arising as a result of her employment by a corporation that is affiliated with Novartis Bioventures Ltd. Novartis Bioventures Ltd. is an indirectly owned subsidiary of Novartis AG.

(10) Consists solely of shares held by Redmont Capital as described in footnote 1 above. Mr. Hodges disclaims beneficial ownership of the shares referred to in footnote 1 above, except to the extent of any pecuniary interest in such shares.

(11) Consists solely of shares held by Truffle Capital as described in footnote 2 above. Dr. Pouletty disclaims beneficial ownership of the shares referred to in footnote 3 above to the extent that he does not have a pecuniary interest in such shares.

(12) Consists solely of 13,547 shares of common stock that can be acquired upon the exercise of outstanding options within 60 days of March 22, 2017. The amounts shown in the table above do not reflect 7,933 shares of Class A common stock that will be acquired by Klaus Schafer pursuant to the Financing Agreement, assuming the conversion of all convertible notes and the exercise of all warrants acquired pursuant to the Financing Agreement prior to the closing of the Merger Agreement.

(13) Consists solely of shares held by HealthCap as described in footnote 4 above. Dr. Steen disclaims beneficial ownership of the shares referred to in footnote 4 above to the extent that he does not have a pecuniary interest in such shares.

(14) Includes shares deemed to be beneficially owned by directors, including those pursuant to relationships with Redmont Capital, Novartis Bioventures Ltd., Truffle Capital and HealthCap as discussed in footnotes 9, 10, 11 and 13 above. Includes an aggregate of 915,550 shares of common stock that can be acquired upon the exercise of outstanding options and 894,333 shares of common stock that can be acquired upon the exercise of warrants within 60 days of March 22, 2017.

RELATED PARTY TRANSACTIONS OF ALTIMMUNE

The following is a description of transactions, since January 1, 2014, to which Altimmune has been a party, in which the amount involved exceeded or will exceed $120,000, and in which any of Altimmune's directors, executive officers or holders of more than 5% of its capital stock, or any immediate family member of or person sharing the household with any of these persons, had or will have a direct or indirect material interest. The following description is in addition to the compensation arrangements described in the section of this proxy statement/prospectus/consent solicitation entitled "Executive and Director Compensation."

Financing Agreement

In connection with the Merger Agreement, on January 28, 2017, Altimmune entered into the Altimmune Financing Agreement with certain of its stockholders and directors, including Novartis Bioventures Ltd., HealthCap V LP, OFCO Club V, UFF Innovation 14 FCPI and UFF Innovation 15 FCPI, who may be deemed to beneficially own greater than 5% of Altimmune's capital stock, pursuant to which such stockholders have irrevocably committed to: (i) participate in Altimmune Private Placement of its convertible securities in an aggregate amount of not less than $3.5 million of gross proceeds for Altimmune that is to be received by Altimmune prior to the Effective Time and (ii) participate in the Post-Closing Private Placement to raise an aggregate of not less than $5.0 million of gross proceeds for PharmAthene to be received by PharmAthene within 135 days of the closing date of the mergers. However, if the combined company completes a public offering of common stock during such 135-day period, then the purchase price of the shares acquired in the Post-Closing Private Placement will be at the same price as the shares sold in such public offering.

Pursuant to the terms of the Altimmune Financing Agreement:

- Novartis Bioventures Ltd. and Novartis International Pharmaceutical Investment Ltd. have committed to contribute $2,081,820 in the Altimmune Private Placement and $2,918,180 in the Post-Closing Private Placement;
- UFF Innovation 14 FCPI, UFF Innovation 15 FCPI and Truffle Fortune 4 FCPI have committed to contribute $458,000 in the Altimmune Private Placement and $642,000 in the Post-Closing Private Placement;
- HealthCap V LP and OFCO Club V have committed to contribute $208,180 in the Altimmune Private Placement and $291,820 in the Post-Closing Private Placement;
- David Drutz, M.D., one of Altimmune's directors, has committed to contribute $274,830 in the Altimmune Private Placement and $0 in the Post-Closing Private Placement; and
- Klaus Schafer, one of Altimmune's directors, has committed to contribute $79,330 in the Altimmune Private Placement and $0 in the Post-Closing Private Placement.

Stock Purchase Agreement

On March 10, 2015, Altimmune entered into a stock purchase agreement with Novartis Bioventures Ltd., affiliates of HealthCap and affiliates of Truffle Capital, each of which are affiliated with certain of Altimmune's directors and holders of more than 5% of its capital stock, providing for a $16.0 million committed financing whereby the investors agreed to purchase, in a private offering, securities for the issuance of up to 1.6 million shares of Altimmune's common stock. These securities include shares of Altimmune's Class A Common Stock and its Series B Convertible Preferred Stock. The stock purchase agreement also provides for the issuance of warrants to purchase shares of its common stock at an exercise price of $0.01 per share, with the number of shares issuable thereunder to be based on the number of securities purchased in the financing by Novartis Bioventures Ltd., affiliates of Truffle Capital and affiliates of HealthCap. Altimmune closed the first tranche of this financing immediately after the ITS acquisition, in which Altimmune issued and sold 800,000 shares of its Class A Common Stock to the investors, with total gross proceeds to it of $8.0 million. Novartis Bioventures Ltd. purchased 333,495 shares for an aggregate purchase price of approximately $3.3 million, affiliates of Truffle Capital purchased 266,505 shares for an aggregate purchase price of approximately $2.7 million and affiliates of HealthCap purchased 200,000 shares for an aggregate purchase price of $2.0 million.

On November 6, 2015, January 12, 2016, April 8, 2016 and August 19, 2016, Altimmune issued and sold an aggregate of 800,000 shares of its Series B Convertible Preferred Stock, and issued warrants to purchase an

aggregate of 718,185 shares of its common stock at an exercise price of $0.01 per share, in four closings under the stock purchase agreement, for aggregate proceeds of $8.0 million. Novartis Bioventures Ltd. purchased 285,738 shares of Altimmune's Series B Convertible Preferred Stock, and received 391,401 common stock warrants, for an aggregate purchase price of approximately $2.9 million, affiliates of Truffle Capital purchased 238,562 shares of Altimmune's Series B Convertible Preferred Stock, and received 326,784 common stock warrants, for an aggregate purchase price of approximately $2.4 million, affiliates of HealthCap purchased 150,000 shares of Altimmune's Series B Convertible Preferred Stock at an aggregate purchase price of $1.5 million.

Guaranty of Promissory Note Issued to the Regional Planning Commission of Greater Birmingham

On June 9, 2011, Altimmune issued a promissory note to the Regional Planning Commission of Greater Birmingham in the principal amount of $205,000. In June 2011, William Enright, Altimmune's President and CEO and a member of its Board of Directors provided a personal guaranty of the promissory note. The promissory note matured on December 10, 2013 and had an annual interest rate of 6.5%, computed on a 365/360 basis. Altimmune paid the note in full on March 5, 2014 in an aggregate amount of $225,000, which included accrued interest on the note. Mr. Enright made no payments in connection with his guaranty of the note.

CERTAIN MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES OF THE MERGERS

The following discussion summarizes certain material U.S. federal income tax consequences of the mergers to U.S. holders (as defined below) of Altimmune capital stock. For purposes of this summary, unless otherwise stated herein, the mergers are collectively referred to as the "Merger." This summary is based upon current provisions of the Internal Revenue Code of 1986, as amended (the "**Code**") existing Treasury regulations promulgated thereunder and current administrative rulings and court decisions, all of which are subject to change or to differing interpretations, possibly with retroactive effect. Any change could alter the tax consequences to PharmAthene, Altimmune or U.S. holders of Altimmune capital stock, as such consequences are described in this summary. This summary is not binding on the Internal Revenue Service (the "**IRS**") and there can be no assurance that the IRS (or a court, in the event of an IRS challenge) will agree with the conclusions stated herein.

This discussion does not address all of the U.S. federal income tax consequences of the Merger that may be relevant to U.S. holders of Altimmune capital stock in light of their particular circumstances and does not apply to stockholders that are subject to special treatment under U.S. federal income tax laws, including, without limitation:

- dealers, brokers and traders in currencies or securities;
- former U.S. citizens or long-term residents of the United States subject to Section 877 or 877A of the Code;
- tax-exempt entities;
- financial institutions, regulated investment companies, real estate investment trusts or insurance companies;
- partnerships, limited liability companies that are not treated as corporations for U.S. federal income tax purposes, subchapter S corporations and other pass-through entities and investors in such entities;
- an estate or trust;
- holders who are subject to the alternative minimum tax provisions of the Code;
- holders who acquired their shares in connection with stock option or stock purchase plans or through a tax-qualified plan, or in other compensatory transactions;
- holders who hold their shares as part of an integrated investment such as a hedge or as part of a hedging, straddle or other risk reduction strategy;
- holders who hold their shares as "qualified small business stock" within the meaning of Section 1202 of the Code;
- holders who do not hold their shares as capital assets within the meaning of Section 1221 of the Code (generally, property held for investment will be a capital asset);
- holders who have a functional currency other than the U.S. dollar; or
- holders that are not U.S. holders (as defined below).

In addition, the following discussion does not address:

- the tax consequences of the Merger under any U.S. federal non-income tax laws or under state, local or non-U.S. tax laws;
- the tax consequences of transactions effectuated before, after or at the same time as the Merger, whether or not they are in connection with the Merger;
- the tax consequences of the exchange of any Altimmune capital stock that constitutes "Section 306 stock" within the meaning of Section 306 of the Code;

- the tax consequences of the receipt of shares of PharmAthene common stock other than in exchange for shares of Altimmune capital stock;
- the tax consequences of the ownership or disposition of shares of PharmAthene common stock acquired in the Merger; and
- all of the tax implications of a failure of the Merger to qualify as a "reorganization" within the meaning of Section 368(a) of the Code.

Accordingly, U.S. holders of Altimmune capital stock are advised and expected to consult their own tax advisors regarding the U.S. federal income tax consequences of the Merger, including the consequences of the Merger under U.S. federal non-income tax laws and state, local and non-U.S. tax laws, and any tax reporting requirements of the Merger, in each case in light of their personal circumstances.

For purposes of this summary, the term "U.S. holder" means a beneficial owner of Altimmune capital stock that is for U.S. federal income tax purposes (a) an individual citizen or resident of the United States; (b) a corporation (or an entity taxable as a corporation) created or organized in or under the laws of the United States or any state thereof or the District of Columbia; (c) a trust if (1) a court within the United States is able to exercise primary supervision over the administration of the trust and one or more U.S. persons have the authority to control all substantial decisions of the trust or (2) such trust has made a valid election to be treated as a U.S. person for U.S. federal income tax purposes; or (d) an estate, the income of which is includible in gross income for U.S. federal income tax purposes regardless of its source. This discussion does not address holders who are not U.S. holders.

U.S. Federal Income Tax Consequences of the Merger

Merger 1 and Merger 2, taken together, are intended to qualify as a "reorganization" within the meaning of Section 368(a) of the Code. Each of Proskauer Rose LLP, tax counsel to Altimmune, and Dentons US LLP, tax counsel to PharmAthene, have delivered an opinion to the effect that the Merger will be treated for U.S. federal income tax purposes as a "reorganization" within the meaning of Section 368(a) of the Code. These opinions are based on certain assumptions and representations as to factual matters from Altimmune, PharmAthene, Merger Sub Corp, and Merger Sub LLC as well as certain covenants and undertakings by Altimmune, PharmAthene, Merger Sub Corp and Merger Sub LLC. Accordingly, subject to the limitations and qualifications set forth herein, the following are the anticipated material U.S. federal income tax consequences:

- a U.S. holder, other than a U.S. holder who exercises appraisal rights (as discussed below), generally will recognize no gain or loss upon the receipt of PharmAthene common stock for its Altimmune capital stock, other than with respect to receipt of one additional share in lieu of a fractional share of PharmAthene common stock (as described below), any imputed interest with respect to PharmAthene common stock distributed from Escrow to such U.S. holder (as described below), and gain or loss on PharmAthene (as described below);
- the aggregate tax basis of the shares of PharmAthene common stock that are received by a U.S. holder in the Merger will be equal to the aggregate tax basis of the shares of Altimmune capital stock surrendered in exchange therefor, subject to the treatment of fractional shares;
- the holding period of the shares of PharmAthene common stock received by a U.S. holder in connection with the Merger will generally include the holding period of the shares of Altimmune capital stock surrendered in exchange therefor; and
- the U.S. federal income tax treatment of the receipt of the one additional share in lieu of any fractional interest by a U.S. holder is not clear and may result in capital gain or loss in an amount equal to the difference between the fair market value of such share and the basis of the fractional share to which such U.S. holder was otherwise entitled (with the holder to take in general a fair market value basis in the additional share so received). The deductibility of a loss is subject to restrictions.

There will be no material U.S. federal income tax consequences of the Merger for PharmAthene stockholders whether or not the Merger qualifies as a "reorganization" within the meaning of Section 368(a) of the Code.

In rendering their opinions regarding tax matters, Dentons US LLP and Proskauer Rose LLP assume that the statements and facts concerning the Merger set forth in this proxy statement/prospectus/information statement and in the Merger Agreement, are true and accurate in all respects, and that the Merger will be completed in accordance with this proxy statement/prospectus/information statement and the Merger Agreement. Counsels' opinions also assume the truth and accuracy of certain representations, assumptions and covenants as to factual matters made by Altimmune, PharmAthene, Merger Sub Corp and Merger Sub LLC. In addition, counsel base their tax opinions on the law in effect on the date of the opinions and assume that there will be no change in applicable law between such date and the time of the Merger. If any of the foregoing representations, assumptions or covenants on which the opinion of Dentons US LLP regarding tax matters and the opinion of Proskauer Rose LLP regarding tax matters are based proves to be incorrect, the U.S. federal income tax consequences of the Merger may be adversely affected and differ from those described above. The opinions of counsel will not bind the courts, nor will they preclude the IRS from adopting a position contrary to those expressed in the opinions. Neither PharmAthene nor Altimmune intends to obtain a ruling from the IRS with respect to the U.S. federal income tax consequences of the Merger.

If the merger does not qualify as a "reorganization" within the meaning of Section 368(a) of the Code, then each U.S. holder of Altimmune capital stock will recognize capital gain or loss equal to the difference between (a) the sum of the fair market value of the shares PharmAthene common stock, as of the effective date of the Merger, received by such U.S. holder pursuant to the Merger and (b) its adjusted tax basis in its Altimmune capital stock surrendered in exchange therefor. Such gain or loss should be included in taxable income in the taxable year of the Merger and will be long-term capital gain or loss provided that a U.S. holder's holding period for such shares is more than twelve (12) months at the time of the consummation of the Merger. The deductibility of capital losses is subject to limitations.

Imputed Interest on Distributions of PharmAthene Common Stock from Escrow to U.S. holders

Distributions of PharmAthene common stock from the Escrow to U.S. holders are scheduled to be made twelve (12) months after the Closing Date of the Merger (the "**Indemnity Period.**") However, if PharmAthene makes indemnification claims against the Escrow during the Indemnity Period, then those indemnity claims will be resolved before the distributions are made to PharmAthene for valid indemnity claims and to U.S. holders of any excess. It is possible that such PharmAthene indemnity claims will not be resolved until more than one year after the Closing Date of the Merger. If distributions of PharmAthene common stock are made to U.S. holders more than one year after the Closing Date of the Merger, then a portion of each distribution of PharmAthene common stock from the Escrow to each U.S. holder (even if made within one year after the Closing Date of the Merger) may be treated as imputed interest under Section 483 of the Code, based upon the applicable federal rate and the period between the Closing Date of the Merger and the date of the distribution of the PharmAthene common stock from the Escrow to such U.S. holders. Any imputed interest would be ordinary income to U.S. holders, rather than capital gain, and will be subject to U.S. federal income tax at ordinary income tax rates, rather than long-term capital gain tax rates. U.S. holders are strongly urged to consult their own tax advisors.

Gain or Loss to U.S. holders on Distributions of PharmAthene Common Stock from Escrow to PharmAthene

Distributions of PharmAthene common stock from the Escrow to PharmAthene for indemnification claims, valued for this purpose at the value of PharmAthene common stock as of the date of such distribution, may result in gain or loss to each U.S. holder equal to such U.S. holder's proportionate share of the value of such PharmAthene common stock distributed to PharmAthene, minus such U.S. holder's adjusted basis in such PharmAthene common stock distributed to PharmAthene. Such gain or loss would generally be capital gain or loss.

Treatment of U.S. holders Who Exercise Appraisal Rights

The discussion above does not apply to U.S. holders who properly perfect appraisal rights with respect to such U.S. holder's shares of Altimmune capital stock. Generally, a U.S. holder who perfects appraisal rights and receives cash in exchange for such U.S. holder's Altimmune capital stock will recognize capital gain or loss measured by the difference between the amount of cash received and such U.S. holder's adjusted tax basis in those shares. Such gain or loss will generally be long-term capital gain or loss, provided the shares of Altimmune capital stock were held for more than one year before the disposition of the shares. The deductibility of capital losses is subject to limitations.

Information Reporting and Backup Withholding

Generally, non-corporate U.S. holders may be subject to information reporting and backup withholding (currently at a rate of 28 percent) with respect to cash received in the Merger, including cash received for perfecting appraisal rights. However, backup withholding will not apply to a U.S. holder who furnishes a valid taxpayer identification number and complies with certain certification procedures or otherwise establishes an exemption from backup withholding. Backup withholding is not an additional U.S. federal income tax. Any amounts so withheld may be allowed as a refund or credit against a U.S. holder's U.S. federal income tax liability (if any), provided that such U.S. holder timely furnishes the required information to the IRS. U.S. holders should consult their own tax advisors regarding their qualification for an exemption from backup withholding and the procedures for obtaining such an exemption

The foregoing summary of material U.S. federal income tax consequences is not intended to be a complete analysis or description of all potential U.S. federal income tax consequences of the Merger. In addition, the summary does not address tax consequences that may vary with, or are contingent on, individual circumstances. Moreover, the summary does not address any U.S. federal non-income tax or any non-U.S., state or local tax consequences of the Merger, nor any tax consequences of any transaction other than the Merger. Accordingly, each Altimmune stockholder is strongly urged to consult his, her or its own tax advisor to determine the particular federal, state, local, or non-U.S. income or other tax consequences of the Merger to such Altimmune stockholder.

ALTIMMUNE'S BUSINESS

Overview

Altimmune is a clinical stage immunotherapeutics company focused on the development of products to stimulate robust and durable immune responses for the prevention and treatment of disease. Altimmune has two proprietary platform technologies, RespirVec and Densigen, each of which has been shown, in preclinical studies and early clinical trials, to activate the immune system in distinctly different ways than traditional vaccine methods. Using these technologies, Altimmune has generated clinical product candidates which potentially represent an entirely new approach to harnessing the immune system. Altimmune's most advanced product candidate, NasoVAX, an intranasally administered recombinant influenza vaccine, uses an adenovector to achieve expression of the influenza antigen in the target cell, thereby potentially stimulating a broader and more rapid immune response than traditional influenza vaccines. Altimmune's planned Phase 2 program for NasoVAX is expected to start in third quarter 2017, with initial data anticipated approximately six months following initial enrollment. Altimmune's second most advanced product candidate, HepTcell, is being tested as an immunotherapy for patients chronically infected with the hepatitis B virus, or HBV, and has the potential to provide a functional cure, something that is not achievable with current treatments. HepTcell is currently in a Phase 1 trial in the United Kingdom in patients with chronic HBV. Preliminary results from this trial are expected by the end of 2017. With the support of the U.S. Biomedical Advanced Research and Development Authority, or BARDA, Altimmune is developing a third product candidate, NasoShield, an anthrax vaccine designed to provide rapid, stable protection after one intranasal administration. Subject to continued financial and other support from BARDA, Altimmune anticipates launching a Phase 1 trial for NasoShield in the first quarter of 2018.

Product candidates based on Altimmune's RespirVec and Densigen technologies are designed to target different elements of the immune response, depending on the immune strategy that Altimmune selects in order to elicit the most appropriate therapeutic response. Because these technologies are complementary, Altimmune expects to be able to more effectively address a broad range of indications. Conventional vaccines are prophylactic and the majority work primarily through the induction of a humoral, or antibody, response. Altimmune's ability to selectively activate not just the humoral response but also cellular, mucosal and innate immune responses reflects the normal protective response of the human body, and thereby provides the potential to develop both prophylactic and therapeutic treatments. NasoVAX, Altimmune's next generation rapid response influenza vaccine candidate, uses Altimmune's RespirVec technology to mobilize multiple components of the immune system, with the aim to rapidly establish immunity against influenza infections. NasoVAX uses an easy and painless intranasal administration, which Altimmune expects will activate mucosal and innate immunities, and may provide a first line of defense against influenza infections while the antibody response is being developed. In HepTcell, Altimmune's therapeutic HBV treatment candidate, Altimmune has chosen to mobilize the T cell immune response through its Densigen technology. Because T cells act to clear the body of HBV infection, Altimmune may enable a functional cure of this chronic condition through the restoration of diminished T cell function. Altimmune believes the potential of its technologies to initiate powerful innate immune responses and drive targeted adaptive immune responses will be a distinguishing factor in its approach to immunotherapy.

Altimmune's distinct approach to immunotherapy has generated product candidates with potential for fundamental advantages over competing products. Altimmune NasoVAX product candidate relies on the intranasal route of administration together with its proprietary RespirVec platform to trigger innate and adaptive immune responses. In independently conducted preclinical studies performed at Utah State University Institute for Antiviral Research and St. Jude Children's Research Hospital, vaccines based on the RespirVec platform provided rapid protection against lethal flu challenge within days of administration. Additionally, in the studies conducted at Utah State, RespirVec vaccines provided protection across widely varying influenza virus strains, including unanticipated strains that were not specifically targeted by the vaccine. Based on its studies to date, Altimmune believes NasoVAX may have the capability to confer rapid and prolonged protection across a breadth of influenza strains, giving it a potential versatility inherently unavailable to other known influenza vaccine products. Altimmune's HepTcell therapy is based on completely synthetic peptides created with its Densigen technology. The robust immune response which Densigen peptides have been shown to induce in Phase 1 and Phase 2 clinical trials of a different Densigen-based product candidate not currently

under development associated with the significant persistence of the peptides after administration, a characteristic of Densigen peptides which was observed in preclinical studies. Significant persistence means that Densigen peptides remain at the injection site up to a week longer than common peptides, which rapidly diffuse and degrade upon injection. Altimmune has selected the peptides used in HepTcell with its Densigen technology such that the immune response it is designed to generate is directed against all HBV genotypes, an advantage of this immunotherapy candidate, given the magnitude of this major unmet medical need. Altimmune's NasoShield product candidate is being developed using its RespirVec technology to stimulate the immune system with a single intranasal administration as opposed to multiple injections. Based on head-to-head results from studies performed in gold-standard preclinical models, NasoShield provided more rapid and consistent protection when compared to the currently approved anthrax vaccine, both potential key advantages for presumed use in a bioterrorism emergency.

Altimmune's underlying platform technologies, RespirVec and Densigen, are versatile and have potential applicability in a wide range of immunotherapeutic approaches to treating disease. RespirVec is a viral vector based on a modified version of adenovirus that is used to deliver selected antigens to the immune system so that a robust response can occur. Altimmune intends to leverage its RespirVec platform to develop additional product candidates for a variety of indications, including prophylactic vaccines for the prevention of respiratory infections. Densigen is a synthetic peptide immunotherapeutic platform that is designed to elicit T cell responses across multiple targets for a given disease. Altimmune intends to leverage its Densigen platform to develop additional T cell-mediated immunotherapy candidates against chronic infections and other diseases. For example, Oncosyn, Altimmune's preclinical product development program in cancer, incorporates the Densigen platform. The platforms are potentially synergistic as well, and Altimmune is currently evaluating additional product candidates in oncology that combine these technologies in a single product.

Altimmune's Strategy

Key elements of Altimmune's strategy include the following:

- *Develop and commercialize immunotherapeutic products for the prevention and treatment of disease.* Altimmune is dedicated to the development of immunotherapeutic pharmaceuticals to prevent and treat infectious and oncologic disease. Altimmune's product candidates seek to engage the immune system in distinctive ways that offer an inherent advantage over existing approaches. Altimmune is currently focused on developing its three clinical stage assets against influenza, chronic HBV infections and anthrax, as well as its preclinical oncology program.
- *Apply Altimmune's platform technologies to expand its pipeline of products.* Altimmune intends to apply its platform technologies to various disease states where the immune system is involved in disease resolution. Altimmune will employ its technologies, either alone or in combination, in an effort to recruit the appropriate elements of the human immune system for a given disease indication. Altimmune is currently applying its technologies to respiratory diseases, chronic infections and cancer. Altimmune will also opportunistically continue to apply its technologies to areas of national security or public interest where government funding is available for such projects.
- *Partner or out-license certain product candidates at later stages of development.* Altimmune intends to manage its organization to be focused on product development. With this focus, depending on indication, Altimmune sees the benefit of partnering or out-licensing certain products for late stage development. For specific indications, such as influenza or hepatitis B, Altimmune expects to partner after Phase 2 clinical testing. For other indications, such as cancer, Altimmune may elect to develop and commercialize the product itself. While there may be limited indications where marketing products independently is reasonable for a company of Altimmune's size, Altimmune anticipates that in most indications, it would seek to out-license or partner to bring its products to market. Altimmune will seek partners that have the appropriate development expertise and the distribution and marketing infrastructure required to successfully commercialize its products.

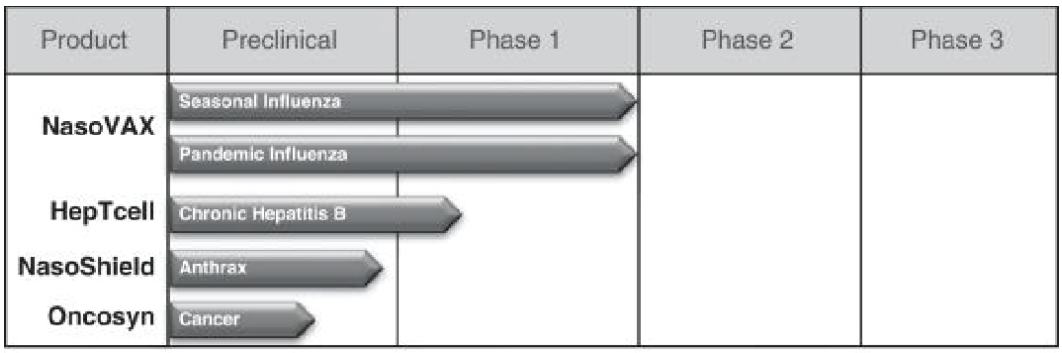
- *In-license or acquire complementary immunotherapeutic technologies and products to expand Altimmune's pipeline.* Altimmune will seek opportunities to expand its pipeline through the in-licensing or acquisition of additional immunotherapeutic technologies or product candidates. In particular, Altimmune will seek complementary products or technologies that either improve or extend an existing product candidate or indication in its current pipeline.

The Human Immune System

The human immune system consists of a series of specialized structures and cell types that work together to protect the body from disease. The immune system can respond to pathogens in two different ways — via the innate immune response or via the adaptive immune response. Adaptive immunity is developed in response to antigens expressed by a particular pathogen, is highly specific to those antigens, and takes from one to several weeks upon initial recognition of the pathogen to mount an effective response. The adaptive immune system responds to a pathogen through both antibody-mediated and T cell-mediated immunity. The antibody-mediated humoral response is primarily directed toward the neutralization of extracellular pathogens (including viruses), which renders them harmless. T cell-mediated cellular immunity functions to recognize cells that need to be destroyed either because they harbor a pathogen or because the cell has transformed into a cancer cell. The adaptive immune response also includes the mucosal immune system, which is localized to mucosal tissues like the lining of the respiratory tract. The mucosal immune system uses a specialized type of antibody called IgA to destroy pathogens at the site of entry into the body.

In contrast to the slower, highly specific responses of the adaptive immune response, the innate immune system is designed to provide a rapid and broad response to attacking pathogens. There are numerous types of innate immune cells with specialized functions. Their principal characteristic is the ability to respond quickly when a pathogen is encountered. The innate immune system can recognize viruses, bacteria and fungi, and is initiated immediately upon recognition of an invading organism to provide protection against infection while the adaptive immune response is being developed. In addition to acting directly on the pathogen threat, the innate immune system facilitates and improves the adaptive immune response. Together, the adaptive and innate immune systems provide a concerted response to the control and clear the pathogen from the host.

Current Product Candidates in Development



NasoVAX

NasoVAX is an adenovectored influenza vaccine candidate that is delivered intranasally. NasoVAX has demonstrated safety and the ability to induce an immune response against influenza in two Phase 1 trials in healthy volunteers. Altimmune anticipates starting enrollment in its Phase 2 clinical trial program for the prevention of seasonal influenza in third quarter of 2017 to assess safety and immunogenicity of NasoVAX. Additional development of NasoVAX for the treatment of pandemic influenza is contingent on successful results in the seasonal influenza program and financial support from BARDA or other governmental agencies.

Influenza Overview

Influenza is one of the most common viral respiratory infections, leading to significant morbidity and mortality. In particular, young children, adults over 65, pregnant women and individuals in long-term care facilities are vulnerable to developing flu-related complications. People with underlying medical conditions such as asthma, obesity, neurological disorders, and chronic lung, heart, liver or kidney problems are also at high risk for complications. The World Health Organization reports that between 250,000 and 500,000 of those infected with the flu each year die as a result of influenza-related complications. The number of deaths associated with seasonal influenza vary from year to year, based on the severity of circulating strains and the effectiveness of that year's influenza vaccine; a 2005 publication in the American Journal of Epidemiology reported an average of over 40,000 deaths annually in the United States from 1979 to 2001, approximately the same number of deaths expected to occur from breast cancer in the United States in 2017.

It is well known that elderly populations are at greater risk for influenza and influenza-related complications. In the Morbidity and Mortality Weekly Report, or MMWR, from August 26, 2016, the United States Centers for Disease Control and Prevention, or CDC, confirmed previous findings that as many as 70% of hospitalizations and 85% of deaths occur among adult age ≥65 years. However, the heightened risk based on age is not confined to senior citizens — for example, a 2014 MMWR report on influenza-associated intensive care unit admissions in the 2013 – 2014 flu season showed that persons aged 41 – 64 years had six times the risk of death and almost four times the risk of ICU admission as those aged 40 or younger, demonstrating that influenza is a real concern for much of the adult population.

There are many influenza strains in circulation during a given flu season and the individual strains are systematically named by: (i) the type of influenza virus, either A or B; (ii) the geographical location where the strain was isolated; (iii) which isolate of potentially many from that location it represents (starting with the number "01"); and (iv) the year it was isolated. For example, an isolate from the pandemic influenza virus known as the swine flu might be called A/California/04/2009. This system of naming virus strains sometimes includes information on the subtype of influenza virus as a suffix at the end of the name, such as A/California/04/2009 (H1N1), where the familiar designation "H1N1" reveals the subunit structure of the virus, designating an influenza subtype comprised of hemagglutinin protein H1 and neuraminidase protein N1.

Vaccination against influenza virus can be an effective way to prevent infections. However, the effectiveness of vaccination can vary greatly from year to year, and the overall level of protection is suboptimal. According to the CDC, the average overall adjusted vaccine effectiveness for influenza seasons has been approximately 40% from 2005 – 2015. One reason for vaccine ineffectiveness is the constantly changing nature of influenza virus strains. The viral protein hemagglutinin (HA) is an important target of vaccination, and each type of HA protein, such as H1 or H3, has multiple forms which can vary from year to year. Because the process used to produce over 99% of influenza vaccine doses today requires six months of advance planning, regulatory agencies must commit to the strains to be used well in advance of the start of the flu season. Since each strain is different, an immune response generated against one form of H1 protein may not protect against infection with a virus containing another form of H1 protein. The low estimated 19% overall efficacy of the 2014 – 2015 flu vaccine in the United States was attributed to the fact that more than two-thirds of the H3N2 viruses circulating that season were of a different form than the H3N2 strain included in vaccine production. Worse still, a more dramatic change in influenza virus makeup occasionally arises when an entirely new HA protein emerges, which can result in a human pandemic. Because humans have never encountered the new HA protein they are likely to have little or no immunity, leaving them at much greater risk for serious complications or death. Current vaccines are suboptimal because of their narrow strain specific responses and the long lead times needed for vaccine production that results in mismatches between strains represented in the vaccine and the predominant circulating strains. Altimmune has demonstrated in repeated preclinical studies that NasoVAX may provide the type of cross-protection necessary to address a broad variety of HA proteins and has a more rapid production time than the vast majority of currently approved vaccines.

The CDC recommends that everyone in the United States over six months of age receive an annual influenza vaccination. According to the CDC, vaccine manufacturers have projected that the market for influenza vaccines in the United States will be approximately 157 to 168 million doses for the 2016 – 2017 flu season, and have reported approximately 145.7 million doses distributed as of February 17, 2017. Through

other market sources Altimmune estimates that the substantial majority of these vaccines contain inactivated virus produced in eggs. According to World Health Organization estimates, the U.S. influenza market is expected to be approximately $2.0 billion in 2018. Despite observations of limited efficacy, the CDC estimates that influenza vaccination prevented approximately 7.2 million illnesses, 3.1 million medically attended illnesses and 90,000 hospitalizations in 2013 – 2014. However, in 2014 – 2015, the CDC estimates that influenza vaccination prevented only 1.9 million illnesses, 966,000 medically attended illnesses and 67,000 hospitalizations, significantly lower than previous seasons because of the reduced effectiveness of the 2014 – 2015 vaccine against the predominant circulating influenza viruses. New vaccines with improved clinical efficacy and effectiveness are needed to further reduce influenza-related morbidity and mortality. One of the most important improvements needed for influenza vaccines is the ability to provide cross-protection between different HA protein types, which would address the issue created with changing viruses mentioned above. Many companies and laboratories have attempted to develop “universal” influenza vaccines that are directed against viral proteins that are highly conserved in sequence among all viral genetic subtypes of influenza; however, it is not clear that the type of immune response generated against those proteins will be sufficiently effective for approval by the FDA.

Altimmune believes there is an opportunity to develop and market an improved vaccine to prevent influenza given the low overall efficacy of currently approved vaccines, especially in those populations with the highest needs: children under two years of age, adults older than 65 years of age and immunocompromised patients.

Altimmune’s Solution, NasoVAX

NasoVAX is an influenza vaccine candidate that consists of a segment of the influenza viral genome packaged in an adenovector that is delivered intranasally. The power of Altimmune’s RespirVec platform, together with the intranasal route of administration, allows NasoVAX to mimic the typical route of infection taken by influenza viruses, potentially stimulating a highly robust and broad immune response as a result.

Altimmune believes NasoVAX has a number of important advantages over traditional vaccines, including the potential for:

- Rapid protection in a matter of days, rather than weeks, as demonstrated in preclinical studies
- Broader protection against changing virus strains, as demonstrated in preclinical studies
- Ability to elicit mucosal immunity at the site of influenza infection
- Immune activation at very low doses, as demonstrated in Phase 1 clinical trials
- Production expected in less than half the time and at anticipated lower costs with greater worker safety compared to traditional egg-based manufacture

By employing its RespirVec platform and intranasal administration, Altimmune mobilizes key elements of the adaptive immune system: not just the antibody-based response triggered by traditional vaccines, but also mucosal immunity to provide a first line of defense and cellular immunity to help control and clear the infection. In addition to this adaptive immunity, NasoVAX stimulates the rapidly acting innate immune response. The innate immune response generally occurs within hours of a pathogen invading, as the body’s first line of defense, and complements the longer-lasting pathogen-specific immunity generated by the other components of the immune system. Vaccine developers have long known of the importance of triggering innate immunity. Typically, this is accomplished through the use of adjuvants, which are often crude mixtures that are unrelated to the vaccine product itself. Because it is designed to activate the innate immune response, NasoVAX may act as its own adjuvant, potentially obviating the need for an additional adjuvant component to the vaccine. By triggering innate immunity, NasoVAX may confer rapid protection that complements the longer-lasting protection based on antibodies and cellular immunity.

Clinical Data

A Phase 1 clinical trial of NasoVAX in seasonal influenza in healthy volunteers demonstrated the overall safety of NasoVAX as well as its ability to induce influenza-specific antibodies in the majority of subjects in an intranasal arm. The primary study endpoint was safety and the secondary endpoint was influenza-specific

immune response. The trial enrolled a total of 24 subjects in four cohorts, three of which received topical administrations of NasoVAX and one of which received intranasal administration. Subjects in the intranasal arm received two doses of NasoVAX directed against H1N1 influenza that were approximately five to ten percent of the anticipated commercial dose separated by 28 days. The IND for the trial, sponsored by Altimmune and originally filed in February 2000, was initially placed on clinical hold to request additions to the study protocol and more information regarding manufacturing, testing and preclinical studies. This information was provided to the FDA and the study was subsequently initiated. As shown in the following chart, four out of six subjects in this arm had detectable H1N1 influenza-specific antibodies after the first dose, and five out of six subjects in this arm had detectable antibodies after the second dose. The vaccine was well tolerated by all subjects. There were no serious or severe adverse events reported during the study. Mild local adverse events included mild nasal burning and bitter taste while systemic effects included soreness, headache, nausea and muscle pain.

Phase 1 clinical results

5 – 10% of anticipated commercial dose

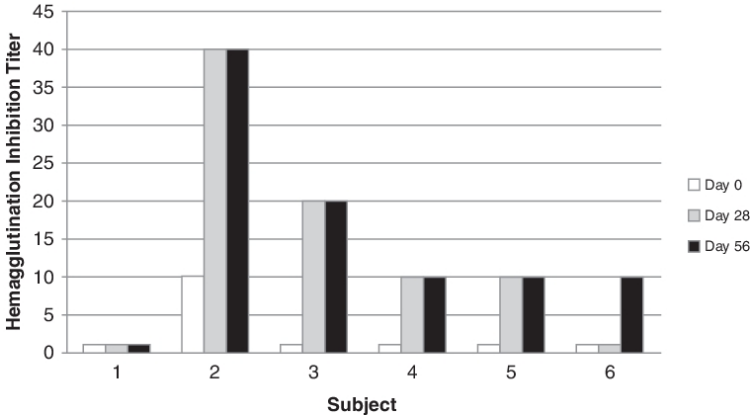


Figure 1. Seroconversion or generation of circulating antibodies in subjects in the intranasal arm of the NasoVAX Phase 1 trial

Source: Vaccine. 2005 Jan 11; 23 (8):1029-36.

A second Phase 1 clinical study of NasoVAX in pandemic influenza (H5N1) was conducted in healthy volunteers under an IND sponsored by Altimmune. In this study, two doses of the vaccine were administered intranasally at three ascending dose levels and compared with placebo. The primary study endpoint was safety and the secondary endpoint was influenza-specific immune response. The IND was filed in November 2007 and was initially placed on clinical hold to request more information related to product characterization and lot release. This information was provided and the study was subsequently initiated. Study results showed that the intranasally administered vaccine was safe and promoted an immune response to a pre-pandemic influenza strain. The incidence of and severity of the adverse events was not significantly different between the NasoVAX groups and the placebo group. Dose-dependent immunogenicity effects were noted using standard measures of immunogenicity.

Preclinical Data

NasoVAX directed against influenza H5N1, commonly referred to as bird flu, results in 100% survival in a ferret model of H5N1 infection that, in the absence of an effective vaccine, leads to 100% mortality within seven days. Altimmune believes that this may potentially translate into better protection for humans as well.

NasoVAX protects ferrets from H5N1 bird flu

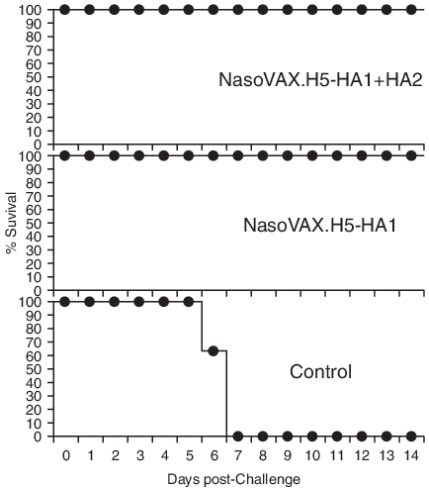


Figure 2. Protection of ferrets from bird flu H5N1 infection by NasoVAX
Source: Company data

In preclinical models, NasoVAX vaccines lead to protection against influenza across dissimilar influenza strains. Vaccination of mice with NasoVAX directed against influenza strain A/New Caledonia/20/1999 provided complete protection from a lethal viral challenge using a divergent strain, A/California/04/2009, to which a traditional vaccine for A/New Caledonia/20/1999 would have offered very little cross-protection. This type of activity may potentially provide increased efficacy in flu seasons when the vaccine developed is not a good match for the flu strain actually circulating.

NasoVAX provides cross-strain protection

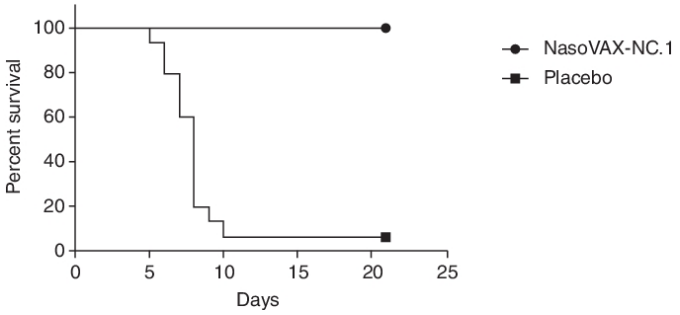


Figure 3. Protection of mice against a divergent influenza strain not targeted by the vaccine
Source: Company data

This protection may not only be due to the development of influenza-specific antibodies, but also to the stimulation of the innate immune system by NasoVAX. As shown in the graph below, mice receiving an intranasal administration of NasoVAX had superior rates of survival to the lethal challenge given just two days post-vaccination. These rates of survival at a near-term challenge indicate that NasoVAX activates the innate immune system. In contrast, in intramuscular administration of NasoVAX, the route used for most influenza vaccines, the effect was not observed.

NasoVAX provides protection from influenza within 2 days

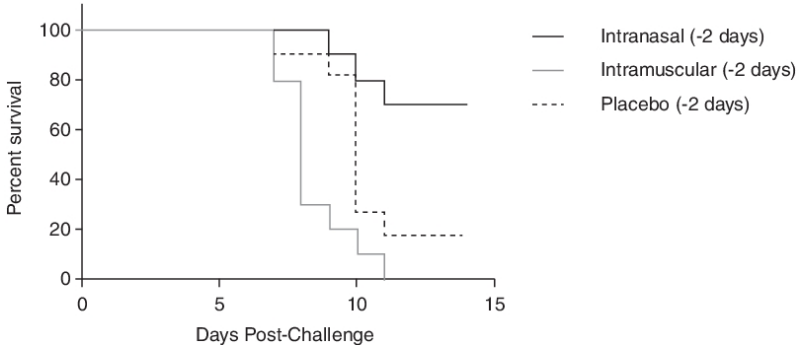


Figure 4. Rapid protection of mice from influenza after immunization with NasoVAX
Source: Company data

The table below highlights certain features of NasoVAX identified during Altimmune's preclinical studies and Phase 1 clinical trials, and compares these with features of certain widely used commercially available influenza vaccines, and certain influenza vaccine product candidates Altimmune considers to be potential competitors to NasoVAX. Typically, the injected influenza vaccines that most people receive are either the killed or split vaccines as illustrated below. The live attenuated vaccine referenced below is currently the only approved intranasal vaccine. The recombinant/virus like particle (VLP) vaccine category includes approved and Phase 2 development-stage influenza vaccines, while the bacterial category is another Phase 2 development-stage vaccine. Taken together, these feature comparisons suggest that NasoVAX potentially offers advantages over each of these products and product candidates in speed of response, multi-faceted response, ease and convenience of administration, speed and ease of manufacturing, and ability to protect against a broad range of flu viruses.

Comparison of influenza vaccine profiles

Desired Qualities	Killed	Split	Live	Bacterial	Recomb or VLP	NasoVAX
Cell-based production	–	– / ✓	–	✓	✓	✓
Fast production cycle	–	–	–	✓	✓	✓
Noninvasive route	–	–	✓	–	–	✓
Mucosal immunity	–	–	✓	–	–	✓
Broad strain coverage	–	–	–	–	–	✓
Rapid onset of protection	–	–	–	–	–	✓
Self-adjuvanting	–	–	✓	✓	–	✓

Table 1. Flu vaccine competitive landscape
Source: Company and publicly available data. Findings not based on head-to-head comparative preclinical or clinical trials.

Clinical Trial Plan for NasoVAX

Altimmune's Phase 2 clinical trial program for NasoVAX for the treatment of seasonal influenza is expected to commence in third quarter 2017, following submission of appropriate regulatory applications. This trial will extend the previous dose ranges tested, and will evaluate immune responses to matched and divergent influenza strains. Initial safety and immunogenicity data is expected to be available in first quarter 2018. Final data to include durability of immune response is expected to be available in mid-2018. The program may also include an influenza challenge trial in which healthy volunteers receive either a placebo or a monovalent vaccine against a well-characterized isolate of seasonal influenza, and then are intentionally infected with that isolate to assess the efficacy of the vaccine. In order to assess the rapid onset of protection seen preclinically, such a trial would include an arm challenged within days of NasoVAX administration. Altimmune expects that this portion of the trial would be conducted in 2018.

Altimmune is also planning two additional trials as part of its Phase 2 program. One is a dose ranging trial of a quadrivalent NasoVAX vaccine in healthy adult subjects, 18 – 64 years old. The subjects will be assessed for antibody response and other measures of immunogenicity one-month post vaccination, as well as be regularly monitored for duration of response. Altimmune anticipates commencing this trial in 2018, and expects final immunogenicity data within six months following first enrollment, with additional safety and durability data to follow. Altimmune plans to use the results of this trial to select dosing for a larger dose confirmation trial.

HepTcell

HepTcell is an immunotherapy product candidate directed against multiple HBV genotypes. HepTcell is a completely synthetic peptide product candidate based on Altimmune's proprietary Densigen technology which Altimmune believes could help destroy infected cells and clear chronic HBV infections, thereby providing a functional cure for the disease. In July 2015, Altimmune commenced a Phase 1 trial of HepTcell in the United Kingdom in patients chronically infected with HBV. Assuming positive Phase 1 trial results, Altimmune plans to file an IND for HepTcell with the FDA in 2018 and then commence Phase 2 trials.

Chronic Hepatitis B Overview

Hepatitis is an inflammation of the liver usually caused by a viral infection. There are five main unrelated hepatitis viruses, referred to as types A, B, C, D and E. Hepatitis is categorized as acute when it lasts less than six months and chronic when it persists longer. In particular, types B and C lead to chronic disease in hundreds of millions of people and, together, are the most common cause of liver cirrhosis and liver cancer.

Hepatitis B virus, or HBV, is the most common cause of viral hepatitis and is spread through blood products, contaminated needles or sexual contact, and from mother to infant. HBV infections are particularly endemic in Southeast Asia, sub-Saharan Africa, the Amazon basin, parts of the Middle East and in some Eastern European countries, where 70 – 90% of the population is infected before the age of 40. Even though prophylactic vaccination programs have led to declines in HBV infections in many countries, chronic infection remains a significant problem in certain areas.

Most adults infected with HBV recover naturally; however, according to the Hepatitis B Foundation, five to ten percent of infected adults go on to develop chronic infections. Chronic hepatitis B, or CHB, infection is a major worldwide health care challenge with over 240 million people worldwide chronically infected, resulting in over one million HBV-related deaths per year due to cirrhosis, liver failure and hepatocellular carcinoma. Approximately two million people in the United States and 13.3 million in Europe are infected with CHB.

The management of CHB has improved dramatically in the last 20 years, owing to the development of new small molecule antivirals directed against the HBV polymerase protein. While these therapies can effectively suppress HBV replication, they do not result in eradication of the virus and therefore their administration can rarely be discontinued.

Therapeutic vaccination is a promising immunotherapeutic approach to induce immune control over the disease. CD4+ and CD8+ T cell responses have been shown to be critical for clearance of acute HBV infection and immune control can be linked to the strength and quality of HBV-specific T cell responses.

CHB patients are known to have profound defects in anti-HBV-specific T cell immune responses, termed immunotolerance, thereby compromising critical protective and disease control mechanisms. Altimmune believes that a treatment like HepTcell, which has been shown in preclinical studies to stimulate the HBV-specific T cell response, could help destroy infected cells and clear chronic HBV infections.

Altimmune's Solution, HepTcell

HepTcell is based on Altimmune's Densigen platform and Altimmune believes it has distinct advantages over other immunotherapeutic approaches for CHB, including the following:

- A novel stabilizing feature that creates a depot, which Altimmune believes will lead to a strong and sustained activation of the immune system
- Potential to generate T cell responses even in subjects with established immunotolerance, as demonstrated in preclinical models
- Ability to target potentially all known types of HBV in circulation worldwide
- Engineered to simultaneously target multiple HBV proteins in order to increase efficacy and decrease resistance

In HepTcell, specific viral peptide sequences, chosen for their ability to elicit broad human leukocyte antigen (HLA) type-independent immune responses, are coupled to a fluorocarbon chain so that, upon administration, the immunotherapy creates a short-term depot, which Altimmune believes will lead to a strong and sustained activation of the immune system. The final study product consists of a mixture of nine peptides between 32 and 40 amino acids long that are designed to be effective across the full spectrum of HBV genotypes. The peptides were selected using bioinformatics and validated using *in vitro* screening of immune responses from blood of HBV-infected patients. Altimmune believes that its synthetic HepTcell product candidate, if approved, could be produced by commodity peptide manufacturers around the world according to a robust and cost-effective process.

Everyone's immune system responds differently to stimuli due to innate differences in HLA type, a shorthand expression for the proteins that, in part, make up the immune system and that vary from individual to individual. For this reason, organ transplants have to be matched carefully to avoid rejection. The HLA type determines how each person's unique immune system will react to immunotherapy, leading to differing levels of efficacy. The discovery of the Densigen technology, on which HepTcell is based, has potentially solved the problem of HLA restriction, with the possibility that nearly all patients may benefit from immunotherapy without a need for matching. In addition, Altimmune believes that HepTcell has potential advantages over therapeutic vaccines under development for CHB because it is based on the incorporation of highly antigenic sequences that appear to be constant across multiple HBV strains or genotypes.

Preclinical Data

In Altimmune's preclinical studies, mice immunized with HepTcell generated a robust T cell response. In one study, Altimmune tested HepTcell in a mouse model that reflects the HBV-induced immunotolerance seen in the clinical setting. Mice in the active arm were infected at week 0 with a vector that expresses all of the HBV proteins (AAV-HBV), and control mice received saline. Both active and control arms were subsequently treated at weeks 12, 14, 16 and 21 with HepTcell immunotherapy combined with the adjuvant IC-31. At week 23 strong HBV-specific T cell responses in the spleen and liver were measured through detection of IFNgamma-secreting T cells.

HepTcell induces immunity in immunotolerized mice

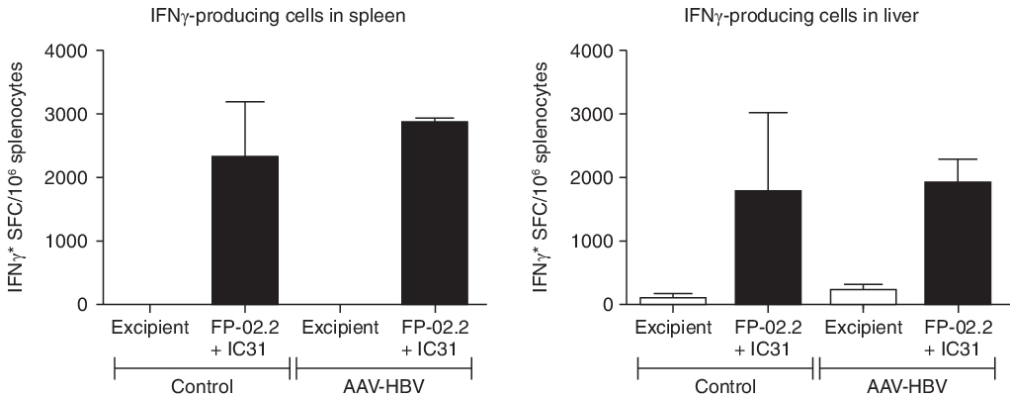


Figure 5. HepTcell with IC31 adjuvant breaks immune-tolerance and induces a robust immune response in both the spleen and the liver in a murine model of chronic HBV infection

Source: Company data

The results demonstrate that a robust immune response can be induced by HepTcell independent of HBV-mediated immunotolerance. Altimmune believes this response is characterized not just by a sufficiency of activated T cells, but also by the strength of recognition which governs the T cell's ability to effectively eliminate HBV-infected cells. By combining HepTcell together with the adjuvant IC31, Altimmune increased the magnitude of the immune response up to three-fold. Altimmune chose IC31 because it is a fully synthetic adjuvant consistent with the synthetic nature of HepTcell itself. A synthetic adjuvant provides consistent quality and has a better controlled manufacturing process, in contrast to many adjuvants that, while effective, are comprised of undefined mixtures of natural substances.

HBV replicates only in humans and other primates. Accordingly, Altimmune conducted an *in vivo* proof of concept study where it loaded rodent cells with either HBV proteins or proteins from an unrelated pathogen, influenza. Altimmune then injected these cells into mice that had been previously administered HepTcell to assess in vivo cell killing activity in the treated mice. Within one day, 91.7 percent of HBV loaded cells were eliminated compared to control cells loaded with proteins from the unrelated pathogen. These preclinical study results demonstrate the specificity of HepTcell to recognize and kill cells containing HBV proteins.

HepTcell induces specific killing of autologous HBV-loaded cells

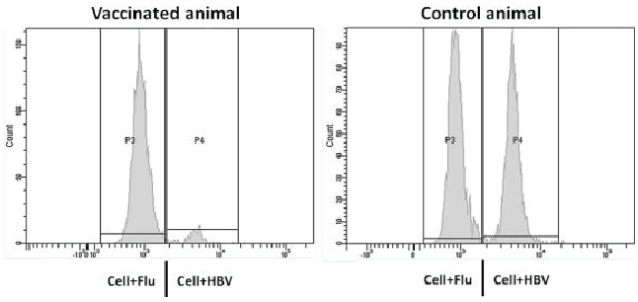


Figure 6. HepTcell therapy allows the in vivo recognition and cell killing of HBV-loaded cells in mice

Source: Company data

Clinical Trial Plan for HepTcell

Altimmune launched a Phase 1 trial in July 2015 in the United Kingdom with planned enrollment of 60 chronically infected HBV patients with controlled disease under standard of care. The primary objective of the trial is to assess the safety and tolerability of HepTcell. As a secondary objective, the trial will also measure the immune response induced by HepTcell following administration. The trial will evaluate two dose levels, both with and without a novel adjuvant, compared to placebo and adjuvant alone. Each cohort is expected to receive three doses of HepTcell, at days 1, 29 and 57, and will be assessed for T cell response and HBsAg and HBsAg-antibody levels over a six month period. Altimmune will also measure the phenotype of cell-mediated immune response that is induced by the immunotherapy. Altimmune expects that initial results should be available by the end of 2017. Upon completion of this trial, and assuming positive results, Altimmune plans to file an IND with the FDA in 2018 and thereafter commence Phase 2 studies in multiple countries, including the United States.

NasoShield

NasoShield is a preclinical vaccine product candidate based on Altimmune's RespirVec technology encoding the anthrax protective antigen. In a head-to-head comparison with the existing approved anthrax vaccine in a gold-standard animal model, a single dose of NasoShield showed complete protection from inhalation anthrax and was non-inferior to multiple doses of the existing approved anthrax vaccine while providing for a more rapid and stable immune response. Altimmune estimates that annual sales in the United States of the existing approved anthrax vaccine are approximately $300 million. Altimmune has developed the product candidate with the support of BARDA, and, subject to their continued financial and other support, Altimmune anticipates launching a Phase 1 trial with NasoShield in first quarter of 2018. Previous work related to the development of NasoShield was also supported by the National Institute of Allergy and Infectious Diseases, or NIAID.

Anthrax Overview

Anthrax is a disease that arises from infection with a bacterial pathogen, *Bacillus anthracis*. Anthrax can be spread by inhalation of bacterial spores which can be released from infected livestock or livestock products; however, this is extremely rare. The greater fear, and key driver for development of anthrax vaccines, is the potential use of anthrax spores by bioterrorists. The bacterial spores are readily aerosolized and could be used against the military or civilian population. Without timely treatment, inhalation anthrax is almost always fatal, and antibiotic treatment is significantly less effective if not initiated shortly after infection. The U.S. government has made significant investments in ensuring that appropriate countermeasures are in place to prevent and treat these infections. Individuals at high risk, such as active duty military personnel, are routinely vaccinated as a preventative measure, and the government stockpiles adequate doses of vaccine for distribution to the broader population in case of a bioterrorism attack.

Anthrax Vaccine Absorbed or AVA, trade name BioThrax, is a protein-based vaccine produced from culture filtrates of an avirulent, non-encapsulated strain of *Bacillus anthracis*. For pre-exposure prophylaxis, it is given as a series of three intramuscular injections at zero, one and six months, at which point the vaccinated subject is considered protected. These initial injections are followed by two additional injections over the next year and yearly booster immunizations thereafter. BioThrax is the only anthrax vaccine approved by the FDA and had sales of $237 million in 2016. In a BioThrax study, approximately 60 to 80 percent of recipients experienced injection site adverse events following the first dose of the vaccine, primarily tenderness, erythema (skin rash), edema (fluid accumulation under the skin), warmth, induration (skin thickening), pain and itching. BioThrax is currently only given to high risk individuals, such as U.S. military personnel, and a significant number of those individuals have refused the vaccine in past voluntary programs, presumably because of the lengthy immunization procedure and documented adverse events. Thus Altimmune believes that there is a market opportunity for a more effective, safer and more convenient anthrax vaccine to expand beyond the current market.

Altimmune's Solution, NasoShield

NasoShield is an anthrax vaccine product candidate based on the RespirVec platform, and contains the coding region for the PA83 protective antigen from *Bacillus anthracis*. Altimmune believes NasoShield has advantages over the existing anthrax vaccine, as suggested by its preclinical studies, including the potential for:

- Efficacy with a single intranasal dose versus multiple injections
- Critical threshold of immunity reached in half the time of BioThrax
- Protection for at least one year from a single administration

These potential advantages of NasoShield, together with its convenient nasal delivery and robust, scalable manufacturing process, lead Altimmune to believe that NasoShield has the potential to be an important next generation anthrax vaccine.

Preclinical Data

Vaccination of animals with a single intranasal dose of NasoShield followed by spores via inhalation after 70 days resulted in statistical non-inferiority relative to two doses of BioThrax, meaning that one dose of NasoShield provided no worse protection than two doses of BioThrax, with survival rates between 97 and 100 percent. In these experiments BioThrax was delivered by two intramuscular injections separated by 28 days.

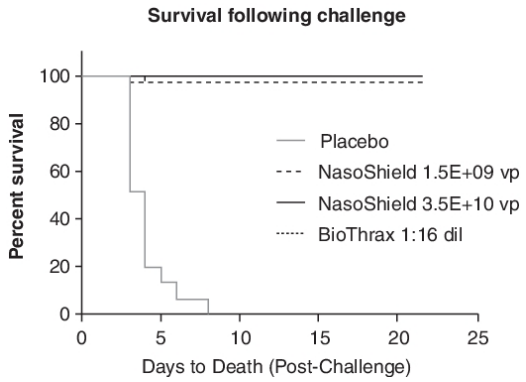


Figure 7. Non-inferiority of NasoShield vs. BioThrax in a rabbit inhalation anthrax model
Source: Company data

NasoShield vaccination in this preclinical study also demonstrates an important advantage over BioThrax, because the protective neutralizing antibody titer rises faster and has greater persistence than the immune response induced following vaccination with BioThrax. The level of antibody present within two weeks of NasoShield dosing is consistent with the level associated with 95 percent probability of survival in this study. As shown in the graph below, NasoShield also leads to the generation of an antibody response that is relatively consistent between 28 and 70 days prior to the lethal anthrax challenge, while the response to BioThrax is much less durable.

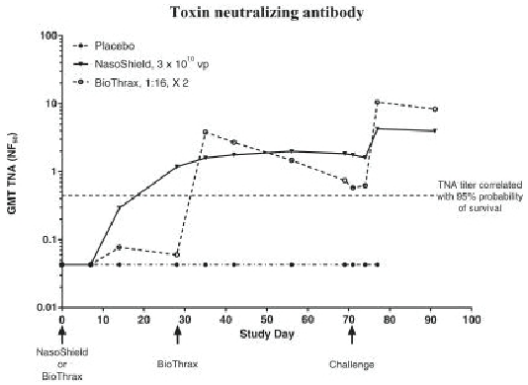


Figure 8. Time course of anthrax antibody development
Source: Company data

Clinical Trial Plan for NasoShield

Altimmune is in discussions with BARDA regarding future clinical development of NasoShield in a Phase 1 dose ranging trial. In July 2016, Altimmune was awarded a $120.2 million, five year contract from BARDA to advance NasoShield into clinical development. The award was increased to $127.5 million in March 2017. Subject to continued financial and other support from BARDA, Altimmune expects to commence the Phase 1 trial in the first quarter of 2018 with preliminary data available in the first half of 2018. This study is a double-blind placebo controlled dose-escalation study evaluating safety and immunogenicity of NasoShield in healthy volunteers. It will also include a randomized open-label BioThrax comparator arm. The primary endpoint of the trial is safety; Altimmune will also assess immunogenicity as a secondary endpoint. The trial, once initiated, is expected to take approximately 18 months to complete.

Oncosyn

Oncosyn is Altimmune's preclinical program for developing immunotherapeutic product candidates against cancer. One of the ways that tumors survive and grow is by evading the immune system, which is always searching for damaged and abnormal cells to destroy. The potential impact of immunomodulators as therapeutics in oncology has revitalized the field of cancer immunotherapy, with products ranging from small molecule modulators to therapies such as checkpoint inhibitors and CAR-T cells. Altimmune believes that its Densigen T cell technology can activate an otherwise ineffective immune response against a tumor and has the potential for use against multiple cancer types, including lung, colorectal, melanoma, breast and ovarian, among others. There also may be the potential to combine Altimmune's Densigen technology with immune-stimulating approaches such as PD-1 inhibitors or other immunomodulators for the treatment of cancer.

Altimmune has demonstrated the potential of its Densigen technology in oncology through preclinical studies using a mouse tumor model where the tumor cells overexpress ovalbumin. In the study, tumor-bearing mice were treated with two administrations of a Densigen-based immunotherapeutic, FP-OVA, which is directed against cells expressing ovalbumin. Sixty percent of the tumor-bearing mice that received FP-OVA survived compared to none of the untreated mice. When the surviving mice were re-challenged with tumor cells on the 50th day following the initial challenge, indicated by the second arrow in the graph below, the tumor did not grow and the mice continued to live.

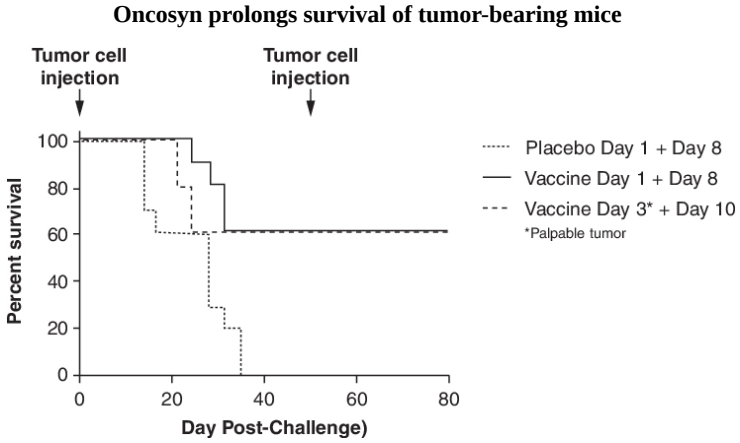


Figure 9. Antitumor activity of an ovalbumin targeted Densigen-based vaccine
Source: Company data

Altimmune believes the results of this study indicate that Densigen technology may provide both the specificity and sustained treatment effect desirable in an effective cancer therapeutic vaccine. Altimmune's ongoing studies in oncology are focused on more challenging tumor-associated antigens and the ability of immunomodulators such as checkpoint inhibitors to boost Oncosyn's potential antitumor efficacy.

Altimmune's Technology Platforms

Altimmune's product candidates are based on its two complementary technology platforms: RespirVec and Densigen. Altimmune's respiratory anti-infective product candidates are derived from its RespirVec platform, in which rapid as well as long-term immune protection is elicited by intranasal delivery of adenovectored pathogen sequences. Altimmune is targeting chronic diseases using its Densigen platform which recruits T cells to generate a sustained response to intracellular targets. Each of these individual platforms can potentially be used to address multiple disease indications, which Altimmune believes will serve as the basis for multiple product candidates. In addition, Altimmune believes that there are potential advantages to combining the rapid response elicited by RespirVec and the highly targeted immune response from Densigen for the development of further product candidates.

RespirVec

Altimmune's RespirVec platform consists of its proprietary process related to intranasal delivery of replication-deficient adenoviruses, and is comprised of patents that it owns or licenses. RespirVec is a viral vector based on a modified version of adenovirus that is used to deliver selected antigens to the immune system so that a robust response can occur. Altimmune's RespirVec technology has important potential advantages compared to other vaccine platforms. The ability of vaccines based on the RespirVec platform to induce mucosal immunity, as shown in Altimmune's preclinical studies, is an important differentiator, as mucosal immunity is generally considered to be desirable for protection against respiratory pathogens. In addition, by using an adenovirus to enter the cell, Altimmune triggers the activation of local innate immunity, further boosting the immune recognition and response to the antigen expressed by the vector, essentially creating an adjuvant-like effect. Because the innate immune response can occur very quickly and is broad in its specificity, this immune response has the potential to provide a rapidly developing line of protection against divergent strains of a virus. Unlike most other vaccines, immunotherapies based on RespirVec enter the cells of the upper respiratory tract and express the antigen intracellularly, just as occurs during an actual respiratory infection. This allows the immune system to recognize the pathogen in the same context as a natural infection and as a result a more natural and robust immune response may be elicited that includes not only the humoral response of traditional vaccines, but also activation of the T cell and mucosal components of the immune system. Traditional vaccines are based on proteins rather than a viral vector and consequently rely primarily on the immune system's antibody response, rather than the type of broad immune involvement seen with RespirVec technology.

Key aspects of Altimmune's RespirVec technology, supported by its preclinical studies and clinical trials, include:

- Intracellular expression of the vaccine antigen for authentic immune presentation
- Mobilization of the innate, cellular and mucosal immune systems, not just the antibody-based response triggered by conventional injectable vaccines
- Self-adjuvanting adenovector delivery system with the potential to improve immunogenicity
- Rapid production cycle at anticipated lower costs

Adenovirus, when unmodified, is one of the causes of the common cold and as such it is well-suited for delivery of antigens using the intranasal route of delivery. One potential disadvantage associated with the use of adenovirus-based vectors is that pre-existing antibodies against the vector, either as a result of previous natural infections or prior therapy with the vector, may interfere with the ability of the vector to express the pathogen. Importantly, these negative effects have been primarily observed following intramuscular injection of similar vectors. Utilizing the intranasal route of delivery seems to bypass this effect, as demonstrated by Altimmune and others in preclinical models. Altimmune has also observed this in its Phase 1 seasonal influenza trial, where there was no correlation between the amounts of pre-existing adenoviral antibodies in study subjects and the ability of those subjects to generate influenza-specific antibodies when NasoVAX was dosed intranasally.

RespirVec bypasses pre-existing vector immunity

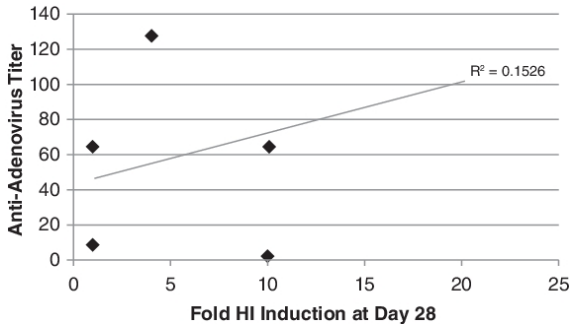


Figure 10. Lack of correlation between anti-adenovirus antibody titer and immune response to NasoVAX
Source: Company data

The graph above plots the level of anti-adenovirus titer versus hemagglutinin inhibition, or HI, a measure of vaccine activity. If a correlation existed between the level of pre-existing anti-vector antibody and vaccine activity, one would expect the data points in the graph to follow a trend where a point with a high anti-adenovirus titer would also have a low fold HI, yet this was not observed. For example, the two data points with the highest anti-adenovirus antibody level had the highest vaccine activity in one case and one of the lowest vaccine activities in the other case, indicating a lack of association. These results suggest that the presence of adenovirus neutralizing antibodies may not negatively impact the efficacy of intranasally delivered RespirVec-based vaccines.

Altimmune's experience suggests that vaccines based on the RespirVec technology can be developed through a simple, fast, safe and relatively inexpensive manufacturing process, which would be an advantage over most other influenza-based vaccine products. Because the manufacturing process uses recombinant DNA to synthesize pathogen-optimized products, manufacturing RespirVec-based products can be done potentially more rapidly than other vaccine types without the need to grow or handle dangerous pathogens. Altimmune believes that its RespirVec technology also lends itself to manufacture in smaller scale bioreactors, which may yield millions of doses without the need for large cell culture or egg-based production facilities.

Densigen

Altimmune developed antigens consisting of 30 – 40 amino acid long synthetic peptides that encode a high density of CD4 and CD8 T cell epitopes that are selected to broaden the HLA class reactivity of the product. Altimmune refers to these high density antigens as Densigens, which are covered by patents owned by it. Immunotherapeutic product candidates based on Altimmune's Densigen technology contain a collection of carefully selected Densigens that are designed to elicit activity across multiple targets for the disease. Synthetic peptide-based antigens have potential advantages over viral or recombinant protein antigens because they may be able to be manufactured at large scale with high purity. However, the development of peptide-based vaccines has been limited due their relatively low immunogenicity in the absence of adjuvants. As demonstrated in preclinical studies, Altimmune has enhanced the ability of Densigen peptides to elicit an immune response by attaching a biologically inert fluorocarbon chain to each peptide, resulting in a depot effect. This effect can be seen in the figure below where the T cell immune response is significantly greater in animals treated with the fluorocarbon-containing peptide than in those treated with peptide without the fluorocarbon chain (native peptide).

Densigen technology improves T cell immunogenicity

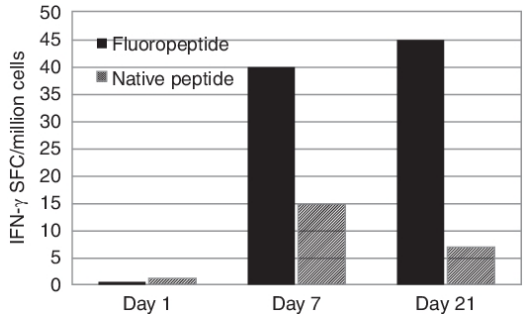


Figure 11. Preclinical demonstration of the depot effect
Source: Company data

This change in the chemical structure, in turn, drives the aggregation of these peptides into micelles, which are more stable and longer-lasting structures than naked peptides. This conformational shift into micelles provides a depot for these peptide antigens and protects them from proteolytic degradation and diffusion, thereby prolonging exposure to the immune system. Altimmune's studies also indicate that the aggregation-inducing properties of the fluorocarbon chain can be modified by pH and salt concentrations such that the vaccine product candidate can be maintained in a soluble format until after intramuscular administration.

The following is Altimmune's illustration of a single Densigen peptide and the aggregate that it forms after intramuscular administration:

Source: Company graphic

Key aspects of Altimmune's Densigen technology, supported byits preclinical studies and clinical trials, include the following:

- Potential ability to target multiple pathogen proteins simultaneously
- Potential for strong, directed cellular response across multiple HLA types in genetically disparate populations
- Completely synthetic, highly purified, stable product
- Well tolerated, with no serious adverse events seen in four Phase 1 and Phase 2 clinical trials of a Densigen-based product candidate not currently under development
- Activity demonstrated in early clinical trials including T cell activation against vaccine peptides and pathogen-infected cells

Altimmune does not expect to rely upon the safety information described above in support of FDA approval for any Densigen-based product candidate currently under development. FDA approval for any Densigen-based product candidate will require Altimmune to complete additional trials for specific indications.

Clinical Safety and Immunogencity of Densigen Technology in Phase 1 Trials

Safety and immunogenicity of the Densigen technology was evaluated using a Densigen product candidate directed against influenza virus in multiple Phase 1 trials in healthy volunteers. The Densigen study product was found to be well tolerated in over 200 volunteers at multiple doses tested. Altimmune observed no dose-dependent incidence of treatment emergent adverse events, laboratory abnormalities or injection site reactions. Altimmune determined T cell dependent immune response to the vaccine to be optimal at a dose of 150 µg/peptide by *ex vivo* peptide-specific stimulation of interferon gamma, or IFN-gamma. This Densigen product candidate stimulated IFN-gamma production from both T helper cells expressing CD4 and cytotoxic T cells expressing CD8, and people over the age of 65 responded similarly to younger people to the study product. With most vaccines and immunotherapies, elderly people respond less strongly than younger adults.

The following figure illustrates the clinical safety and immunogencity findings of Altimmune's Densigen technology in Phase 1 trials:

Densigens induce robust T cell immunogenicity in adult and elderly subjects

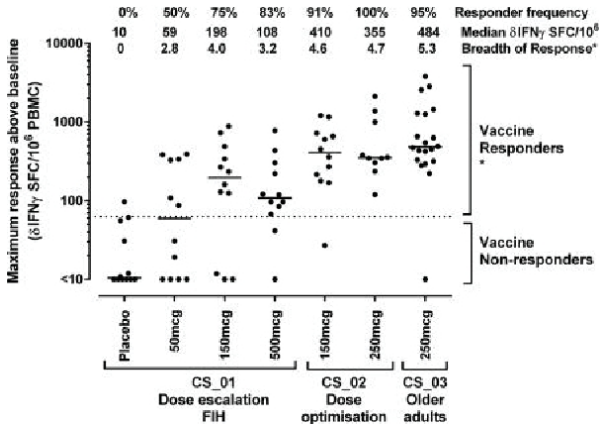


Figure 12. Interferon gamma induction subsequent to immunization with FP-01.1
Source: Company data

Adverse events observed in the Phase 1 trials included injection site reactions, headache, malaise and fatigue.

Altimmune is exploring multiple applications for the Densigen technology, including its ability to potentially generate robust T cell responses in the more challenging population of adults over the age of 65. Altimmune is also evaluating potential programs in hepatitis and oncology, as well as in other diseases where it can direct the appropriate immune response through the use of its Densigen technology.

Applications of Altimmune's Technologies in Animal Health

Highly pathogenic strains of avian and swine influenza threaten the agricultural industry and are potential sources of genetic material that can lead to pandemic influenza outbreaks in humans. Altimmune has partnered with leading academic researchers and the United States Department of Agriculture, or USDA, to design and test the potential of its technologies in animal health and are encouraged by the results obtained to date.

Altimmune believes that applications in animal health provide potential out-licensing opportunities for its technologies and continues to pursue animal health research using external sources of funding.

Competition

The biopharmaceutical industry and the vaccine market are intensely competitive and are characterized by rapid technological progress. In general, competition among pharmaceutical products is based in part on product efficacy, safety, reliability, availability, price and patent position. An important factor is the relative timing of the market introduction of Altimmune's products and its competitors' products. Accordingly, the speed with which Altimmune can develop products, complete the clinical trials and approval processes and supply commercial quantities of the products to the market is an important competitive factor. Altimmune's competitive position also depends upon its ability to show differentiation with a product that is more efficacious, particularly in the relevant target populations, and/or be less expensive and quicker to manufacture. It also depends upon Altimmune's ability to attract and retain qualified personnel, obtain patent protection or otherwise develop proprietary products or processes and secure sufficient capital resources for the often substantial period between technological conception and commercial sale.

Large and established companies such as AstraZeneca, GSK, Johnson & Johnson and Sanofi Pasteur, among others, compete in the influenza vaccine market. These companies compete with Altimmune with their greater experience and expertise in securing government contracts and grants to support their research and development efforts, conducting testing and clinical trials, obtaining regulatory approvals to market products, manufacturing such products on a broad scale and marketing approved products. These companies also compete with Altimmune by having significantly greater research and marketing capabilities than Altimmune does and may also have products that have been approved or are in late stages of development, and have collaborative arrangements in Altimmune's target markets with leading companies and research institutions. Established pharmaceutical companies may also invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make the product that Altimmune develops obsolete.

Altimmune also faces competition from smaller companies such as Protein Sciences, which markets an influenza vaccine; Inovio Pharmaceuticals, which is developing an HBV therapeutic vaccine; Emergent Biosolutions, which manufactures the existing anthrax vaccine; and PaxVax, which is developing an anthrax vaccine. Any of these smaller companies may develop competing products more rapidly than Altimmune does. A number of companies of varying sizes are also pursuing the development of a "universal" flu vaccine. In addition, Altimmune faces substantial competition for government funding, particularly for its anthrax vaccine program.

Intellectual Property

Altimmune generally seeks patent protection for its technology and product candidates in the United States and abroad. The patent coverage available to biotechnology companies is generally uncertain because it involves complex legal and factual considerations. Altimmune's success will depend, in part, on whether it can:

- obtain patents to protect its own technologies and product candidates;
- obtain licenses to use the technologies of third parties, which may be protected by patents;

- protect its trade secrets and know-how; and
- operate without infringing the intellectual property and proprietary rights of others.

Patent Rights Related to Altimmune's *Densigen Platform Technology*

Fluorocarbon Antigen Delivery Vectors

Altimmune is developing a fluorocarbon antigen construct platform technology. Altimmune's patents covering this technology are issued in the United States, Japan and certain European countries, including the United Kingdom, Germany and France. Additional patents are issued and/or patent applications are pending in other commercially relevant jurisdictions. The claims are directed to the fluorocarbon antigen construct, compositions comprising the construct and methods of using the construct to stimulate an immune response. The patents and, if issued, the patent(s) resulting from the pending patent applications are expected to have an expiration date no earlier than April 2025, not giving effect to any potential extensions and assuming payment of all associated fees.

Formulation of Antigen Delivery Vectors

Altimmune is developing a fluorocarbon antigen construct acidic formulation platform technology, for which Altimmune has a patent issued in the United States and Japan and patent applications pending in the United States, Europe and Japan, as well as other commercially relevant jurisdictions. The claims are directed to acetic acid formulations of certain fluorocarbon antigen linked peptides. The patent and, if issued, the patent(s) resulting from the pending patent applications are expected to have an expiration date no earlier than December 2031, not giving effect to any potential extensions and assuming payment of all associated fees.

Patent Rights Related to Altimmune's RespirVec Platform Technology

Immunotherapy for Respiratory Pathogens — Intranasal Application of Adenoviral Vector Vaccines

Altimmune is developing a rapid and prolonged immunologic-therapeutic technology, for which it has a patent issued in the United States for influenza and patent applications allowed in the United States, Europe and Japan, as well as pending applications in other commercially relevant jurisdictions. The claims are directed to methods for inducing an immune response against respiratory pathogens including influenza and *Bacillus anthracis*, the causative agent of anthrax, comprising intranasal administration of an effective amount of E1 and/or E3 deleted adenovirus. The patent and, if issued, the patent(s) resulting from the pending applications have an expiration date no earlier than March 2032, not giving effect to any potential extensions and assuming payment of all associated fees..

Topical and Intranasal Application of Adenoviral Vectors Expressing Heterologous Antigen — In-Licensed from the University of Alabama at Birmingham Research Foundation

Altimmune is the exclusive licensee of patents owned by the University of Alabama at Birmingham Research Foundation, or the UABRF. These patents are directed to topical application of genetic vectors. These patents are issued in the United States and certain European countries, including Great Britain, France, Germany, Italy, Netherlands and Spain, as well as other commercially relevant jurisdictions. The claims are directed to methods of non-invasively inducing a systemic immune response in a bird or mammal against a gene product comprising contacting skin, or intranasal administration, of the bird or mammal with a genetic vector in an amount effective to induce the response. The ex-U.S. patents are expected to have an expiration date no earlier than May 2020, not giving effect to any potential extensions and assuming payment of all associated fees. The issued U.S. patents are expected to have an expiration date no earlier than August 2018, not giving effect to any potential extensions and assuming payment of all associated fees.

Altimmune is also the exclusive licensee of one issued U.S. patent application owned by the UABRF directed to mucosal application of genetic vectors. The claims are directed to methods of non-invasive immunization by administering a non-replicating adenovirus vector expressing influenza antigens via intranasal administration. The issued U.S. patent has an expiration date no earlier than January 2020, not giving effect to any potential extensions and assuming payment of all associated fees.

On March 1, 1998, Altimmune entered into an exclusive license agreement with the UABRF, which was amended and restated on June 2, 2014 and further amended as of October 16, 2015, pursuant to which

Altimmune obtained an exclusive license under the patent rights described above to develop, manufacture and commercialize a non-invasive vaccine technology within the field of use, which includes any diagnostic, vaccine or therapeutic use or methods, in any country in which the licensed patents are pending or have been granted. The UABRF reserved non-commercial rights customarily reserved by academic licensors and rights outside the field of use. Although the UABRF retained primary responsibility for the filing, prosecution, maintenance and defense of the licensed patents, Altimmune has the right to review and comment on all patent protection activities and Altimmune agreed to reimburse the UABRF for the cost of such activities.

In connection with the original license, Altimmune paid a low five figure up-front license fee and issued 119,550 shares of common stock to UABRF. Altimmune also agreed to make certain payments, including an annual maintenance payment and royalty payments expressed as a low single digit percentage of net sales of licensed products covered by valid claims of any licensed patent in the country of sale until the expiration of the last to expire of such patents in such country. The royalty payments are subject to a minimum annual royalty amount following the first commercial sale of a licensed product, ranging from low five figures to low six figures. To date, Altimmune has paid UABRF $438,000 under the agreement, including promissory notes to UABRF in connection with the license agreement that have since been repaid, and an additional $94,000 in fees that were converted to equity. See the section of this proxy statement/prospectus/consent solicitation entitled “Altimmune’s Management’s Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources — Indebtedness.”

Altimmune may terminate the license agreement without cause, and the agreement contains customary provisions for either party to terminate prior to the expiration of the agreement. In addition, UABRF may terminate the agreement if by the earlier of (i) the end of the third calendar year after the first commercial sale of a licensed product and (ii) January 1, 2023 (as extended by the October 2015 amendment), 50% of the minimum royalty payments due in that year does not originate from net sales of licensed products. The agreement expires on the date upon which the last of the licensed patents expires.

Adenovirus Vectored Vaccines — Adjuvant Combination

Altimmune is developing technology directed to non-invasive administration of adenovirus vectored vaccines, for which a patent application is pending in the United States, Europe, Japan other commercially relevant jurisdictions. The claims are directed to methods for increasing immunogenicity of an adenovirus vectored vaccine plus a double stranded RNA polynucleotide adjuvant. If issued, the patent(s) resulting from the pending patent application and future patent applications, if any, are expected to have an expiration date no earlier than September 2034, not giving effect to any potential extensions and assuming payment of all associated fees.

PER.C6 Cell Line — In-Licensed from Crucell Holland B.V.

Altimmune is the non-exclusive licensee of patent rights held by Crucell Holland B.V., or Crucell, covering a method of producing an adenoviral vector stock using cell lines including the PER.C6 cell line, which may be used for the development and manufacture of vaccine products. The Crucell patent rights include patents issued in the United States, of which one family of patents is expected to have an expiration date no earlier than March 2017 and another no earlier than April 2020, in each case not giving effect to any potential extensions and assuming payment of all associated fees.

Altimmune entered into the Second Restated License Agreement with Crucell, effective as of October 4, 2005, which amended and restated its prior license agreements with Crucell. Under the Second Restated License Agreement, Altimmune obtained a non-exclusive, worldwide license (with the right to sublicense) under certain patent rights listed above and know-how to use Crucell’s proprietary cell line to develop, manufacture and commercialize vaccines to prevent and/or treat influenza virus and anthrax infection in humans.

In consideration for the license, Altimmune paid a low six figure up-front license fee, issued 134,475 shares of Series A convertible preferred stock, 79,700 shares of Series A-1 redeemable convertible preferred stock and warrants to purchase 15,940 shares of Series A-1 redeemable convertible preferred stock to Crucell, and agreed to pay certain development-based milestone payments, ranging from high five figures to low six figures through FDA approval of licensed products, in an aggregate amount of approximately

$2.5 million. Altimmune also agreed to pay royalty payments expressed as a low single digit percentage of net sales of products in any country where the manufacture of such product is covered by a valid claim of any licensed patent or uses licensed know-how, subject to a royalty stacking reduction and minimum annual royalty payments, until the expiration of the term of the Second Restated License Agreement. To date, Altimmune has paid Crucell $1.93 million in cash and equity under the agreement.

Altimmune may terminate the Second Restated License Agreement without cause, and the agreement contains customary provisions for either party to terminate prior to the expiration of the agreement. The Second Restated License Agreement expires on a product-by-product and country-by-country basis on the later of the date upon which the last of the licensed patents applicable to the relevant product expires or 15 years from the date of first commercial sale of the relevant product. Upon expiration of the agreement, or if Altimmune terminates the agreement for Crucell's material breach, Altimmune retains the right to exploit the rights granted.

Altimmune amended the Second Restated License Agreement with Crucell, effective as of September 25, 2015, primarily to streamline its manufacturing license arrangements. Prior to this amendment, Altimmune entered into three-party manufacturing license agreements with each manufacturer and Crucell. The amendment enables Altimmune to directly grant sublicenses of certain of its rights under Crucell's patent rights and know-how to manufacturers, subject to Crucell's consent which may not be withheld if the manufacturer meets certain criteria.

Patent Rights Related to Altimmune's Product Candidates

NasoVAX, an Influenza Vaccine

Altimmune is developing a rapid and prolonged immunologic-therapeutic technology for influenza, for which it has a patent issued in the United States and allowed in Europe and Japan for influenza and patent applications pending in the United States and Japan, as well as other commercially relevant jurisdictions. The issued and pending claims are directed to methods for inducing a rapid protective response against influenza, comprising intranasal administration of an effective amount of E1 and/or E3 deleted adenovirus. The patent and, if issued, the patent(s) resulting from the pending applications are expected to have an expiration date no earlier than March 2032, not giving effect to any potential extensions and assuming payment of all associated fees. NasoVAX is also covered by the patents and patent applications relating to Altimmune's RespirVec platform technology, including a U.S. patent application which has been issued by the USPTO and includes claims directed to methods of non-invasive immunization by administering a non-replicating adenovirus vector expressing influenza antigens via intranasal administration.

NasoShield, Anthrax Vaccine

Altimmune is developing a rapid and prolonged immunologic-therapeutic technology for anthrax, for which Altimmune has a patent allowed in Europe and granted in Japan. Additional patent applications are pending in the United States, Europe, Japan and other commercially relevant jurisdictions. The issued and pending claims are directed to methods for inducing a rapid protective response against anthrax, comprising intranasal administration of an effective amount of E1 and/or E3-deleted adenovirus expressing a Bacillus anthracis antigen. The patent, if issued, resulting from the pending applications are expected to have an expiration date no earlier than March 2032, not giving effect to any potential extensions and assuming payment of all associated fees. Altimmune is also developing technology directed to use of anthrax spore protein antigens for inducing a protective immune response against anthrax disease, for which a patent application is pending in the United States. The claims are directed to intranasal administration of a non-replicating adenovirus vector that contains and expresses anthrax spore protein antigens for use in preventing and treating anthrax infections. If issued, the patent resulting from this patent application is expected to have an expiration date no earlier than July 2024, not giving effect to any potential extensions and assuming payment of all associated fees. NasoShield is also covered by the patents and patent applications relating to Altimmune's RespirVec platform technology.

HepTcell, Chronic Hepatitis B Immunotherapy

Altimmune is developing an HBV immunotherapy technology directed to compositions comprising fluorocarbon constructs with specific peptide HBV antigen sequences. Altimmune's patent applications covering this technology are pending in the United States, Europe and Japan, as well as other commercially

relevant jurisdictions. The claims are directed to at least two HBV antigen peptide sequences, wherein the peptide sequences comprise a T cell epitope. If issued, the patent(s) resulting from the pending patent applications are expected to have an expiration date no earlier than December 2033, not giving effect to any potential extensions and assuming payment of all associated fees. HepTcell is also covered by the patents and patent applications relating to Altimmune's Densigen platform technology.

Oncosyn, Therapeutic Cancer Vaccine

Altimmune is developing a therapeutic cancer vaccine technology using compositions comprising at least two specific tumor peptide antigens, wherein those sequences comprise a T cell epitope. Altimmune's patent application covering this technology are pending in the United States, Europe, Japan and other commercially relevant jurisdictions. If issued, the patent(s) resulting from the pending patent application and future patent applications, if any, are expected to have an expiration date no earlier than September 2034, not giving effect to any potential extensions and assuming payment of all associated fees. Oncosyn is also covered by the patents and patent applications relating to Altimmune's Densigen platform technology.

Veterinary Product Candidates

Altimmune co-owns with Auburn University patents and patent applications covering technology directed to an avian vaccine using human adenovirus vectors for the delivery of avian immunogens and antigens. These patents are issued, allowed and/or patent applications are pending in the United States and Europe, as well as other commercially relevant jurisdictions. The claims are directed to methods for avian (*in ovo* or embryonic) administration of a human adenoviral vector expressing avian influenza antigens. The patents and, if issued, the patent(s) resulting from these patent applications are expected to have an expiration date no earlier than August 2026, not giving effect to any potential extensions and assuming payment of all associated.

Government Contracts

BARDA Anthrax Contract

On September 7, 2011, Altimmune signed a contract with the U.S. Biomedical Advanced Research and Development Authority (BARDA) pursuant to which it is developing its NasoShield anthrax vaccine. That contract with BARDA commenced in October 2011 and was extended through September 2016. In July 2016, Altimmune signed a new contract with BARDA, which was further amended on March 24, 2017. The five year contract, valued at up to $127.5 million, will fund clinical development of NasoShield.

Under the 2011 contract, as modified, BARDA pays Altimmune a fixed fee and reimburses certain of its costs for the research and development of an Ad5-vectored, protective antigen-based intranasal anthrax vaccine through non-clinical assessment of efficacy, bio-distribution and toxicity, manufacturing process and development as required for IND application, regulatory review, and development of a Phase 1 dose ranging protocol to assess safety and immunogenicity. Additionally, the 2011 BARDA contract consisted of an initial base performance period providing approximately $10.3 million in funding for the period October 2011 through September 2013, and a single option extension providing approximately $8.7 million in funding for the period October 2013 through December 2015. In September 2013, BARDA exercised the single option extension. During the year ended December 31, 2015, Altimmune received approximately $4.2 million pursuant to the contract. Altimmune received no-cost extensions to the contract through September 2016. Altimmune has received approximately $1.0 million in additional funding under the extensions. To date, Altimmune has received an aggregate of approximately $17.4 million under the 2011 BARDA contract.

Under the current contract, BARDA pays Altimmune a fixed fee and reimburses certain of its costs for the research and development of an Ad5-vectored, protective antigen-based intranasal anthrax vaccine through GMP manufacture and conduct of a Phase 1 clinical trial dose ranging assessment of safety and immunogenicity. The contract consists of an initial base performance period providing approximately $21.6 million in funding for the period July 2016 through July 2018. BARDA has seven options to extend the contract to fund certain continued development and manufacturing activities for the anthrax vaccine, including Phase 2 clinical studies. Each option, if exercised by BARDA, would provide additional funding ranging from approximately $1.1 million to $34.4 million for the period July 2018 through July 2021. To date, Altimmune has received an aggregate of approximately $377,000 under the current BARDA contract.

Altimmune owns the intellectual property rights to inventions made by Altimmune in the performance of work under the BARDA contracts, provided that Altimmune discloses such inventions to the U.S. government and notifies the U.S. government of its election to retain title. The U.S. government will have a non-exclusive, non-transferable, irrevocable, paid-up license to practice, or have practiced for or on its behalf, such inventions throughout the world, in addition to other rights customarily reserved by the U.S. government for intellectual property generated using government funds.

BARDA is a division of the U.S. Department of Health and Human Services in the Office of the Assistant Secretary for Preparedness and Response that supports the advanced research and development, manufacturing, acquisition and stockpiling of medical countermeasures. Altimmune's contracts with BARDA, like those awarded by other U.S. government agencies, contain provisions not typically found in commercial contracts. Most notably, BARDA, or the U.S. government acting through BARDA, may terminate, modify or amend Altimmune's contract, in whole or in part, for nearly any reason or no reason.

Further, the 21st Century Cures Act, or Cures Act, was signed into law on December 13, 2016 and, among other things, includes a provision requiring timely and accurate recommended utilization guidelines for qualified Medical Countermeasures, or MCMs, including for products in the Strategic National Stockpile. The Cures Act requires HHS to report to the appropriate committees of Congress when funding in the BioShield Special Reserve Fund, or SRF, available to procurement of MCMs falls below $1.5 billion and how the amount of funding will impact identified MCM priorities. The Cures Act ensures coordinated and efficient processes for executing MCM development and procurement programs by clarifying that the Director of BARDA carry out the programs funded by the SRF, as well as the procurement contracts, grants, and cooperative agreements under BARDA.

United States Government Regulation

Biological products, such as Altimmune's product candidates, are subject to regulation under the Federal Food, Drug, and Cosmetic Act, or FD&C Act, and the Public Health Service, or PHS Act, as well as other federal, state and local statutes and regulations. Both the FD&C Act and the PHS Act and their corresponding regulations govern, among other things, the testing, manufacturing, safety, efficacy, labeling, packaging, storage, record keeping, distribution, reporting, advertising and other promotional practices involving biological products. FDA approval must be obtained before clinical testing of biological products. FDA approval also must be obtained before marketing of biological products. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources, and each process may take several years to complete, although certain expedited programs potentially applicable to Altimmune's product candidates, such as FDA fast track approval processes for certain new drugs with the potential to address unmet medical needs for certain serious or life-threatening conditions, may potentially expedite approval processes. Certain federal incentive programs are also potentially applicable to Altimmune's product candidates, such as for "orphan drugs" that treat rare conditions, and programs supporting the development of bioterrorism medical countermeasures. Data obtained from clinical activities is not always conclusive and may be susceptible to varying interpretations, which could delay, limit or prevent regulatory approval. The FDA may not grant approval on a timely basis, or at all, and Altimmune may encounter difficulties or unanticipated costs in its efforts to secure necessary governmental approvals, which could delay or preclude Altimmune from marketing its product candidates. In addition, the FDA may limit the indications for use or place other conditions on any approvals that could restrict the commercial application of the products. After approval, some types of changes to the approved product, such as adding new indications, manufacturing changes and additional labeling claims, are subject to further testing requirements and FDA review and approval. In addition, Altimmune's failure, or the failure of its third-party manufacturers, to comply with applicable regulations could result in sanctions being imposed on Altimmune, including clinical holds, fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of product candidates or products, operating restrictions and criminal prosecutions, any of which could adversely affect Altimmune's ability to commercialize its product candidates.

Biological Products Development Process

The process required by the FDA before a biological product may be marketed in the United States generally involves the following:

- completion of preclinical laboratory tests and animal studies according to good laboratory practices, or GLPs, and applicable requirements for the humane use of laboratory animals or other applicable regulations;
- submission to the FDA of an application for an investigational new drug, or IND, which must become effective before human clinical trials may begin and which must include approval by an independent IRB at each clinical site before the trials may be initiated;
- performance of adequate and well controlled human clinical trials according to the FDA's regulations commonly referred to as good clinical practices, or GCPs, and any additional requirements for the protection of human research subjects and their health information, to establish the safety and efficacy of the proposed biological product for its intended use;
- submission to the FDA of a biological licensing application, or BLA, for marketing approval that includes substantive evidence of safety, purity and potency from results of preclinical testing and clinical trials, and detailed information about the chemistry, manufacturing and controls for the product, reports of the outcomes and full data sets of the clinical trials and proposed labeling and packaging for the product;
- review of the product candidate by an FDA advisory committee, where appropriate or if applicable;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities where the biological product is produced to assess compliance with cGMPs, to assure that the facilities, methods and controls are adequate to preserve the biological product's identity, strength, quality and purity and, if applicable, the FDA's current good tissue practices, or cGTPs, for the use of human cells, tissues, and cellular and tissue-based products;
- satisfactory completion of potential FDA audit of the preclinical study and clinical trial sites that generated the data in support of the BLA; and
- FDA review and approval, or licensure, of the BLA, including agreement on post-marketing commitments, if applicable.

Before testing any biological product candidate in humans, the product candidate enters the preclinical study stage. Preclinical studies include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies to assess the potential safety and activity of the product candidate. The conduct of certain preclinical studies must comply with federal regulations and requirements including GLPs.

The clinical trial sponsor must submit the results of the preclinical studies, together with manufacturing information, analytical data, any available clinical data or literature and a proposed clinical protocol, to the FDA as part of the IND. Some preclinical studies may continue even after the IND is submitted. The FDA requires a 30-day waiting period after the filing of each IND before clinical trials may begin. The FDA may also place the clinical trial on a clinical hold within that 30-day time period. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. The FDA may also impose clinical holds on a biological product candidate at any time before or during clinical trials due to safety concerns or non-compliance. If the FDA imposes a clinical hold, studies may not recommence without FDA authorization and then only under terms authorized by the FDA. Accordingly, Altimmune cannot be sure that submission of an IND will result in the FDA allowing clinical trials to begin, or that, once begun, issues will not arise that suspend or terminate such studies.

The Cures Act was designed to spur the rapid discovery, development, and delivery of innovative drugs and devices to treat disease. Among other things, the Cures Act directs the FDA to consider a broader range of real-world evidence when approving new indications for a drug, grants accelerated approval for regenerative therapies, and establishes a "breakthrough" approval pathway for cutting-edge medical devices. Further, the Cures Act permits the HHS Secretary to approve certain "drug development tools" for use in clinical trials and the new drug approval process. The additional tools are intended to shorten drug development time and reduce the failure rate for drugs in development. A drug development tool includes a biomarker including a surrogate endpoint, a clinical outcome assessment including a patient-reported outcome, and any other method, material or measure that the FDA determines aids drug development and regulatory

review. A drug development tool is qualified if the FDA has determined that the tool and its proposed context of use can be relied upon to have a specific interpretation and application in drug development and regulatory review. A qualified drug development tool may be used to support the investigational use of a drug or support or obtain NDA approval. The impact of the Cures Act on Altimmune will depend on yet-to-be-issued FDA and HHS regulations.

Clinical trials involve the administration of the biological product candidate to healthy volunteers or patients under the supervision of qualified investigators. Clinical trials are conducted under protocols detailing, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria, and the parameters to be used to monitor subject safety, including stopping rules that assure a clinical trial will be stopped if certain adverse events, or AEs, should occur. Each protocol and any amendments to the protocol must be submitted to the FDA as part of the IND. Clinical trials must be conducted and monitored in accordance with the FDA's regulations comprising the GCP requirements, including the requirement that all research subjects provide informed consent. Further, each clinical trial must be reviewed and approved by an IRB at or servicing each institution at which the clinical trial will be conducted. An IRB is charged with protecting the welfare and rights of trial participants and considers such items as whether the risks to individuals participating in the clinical trials are minimized and are reasonable in relation to anticipated benefits. The IRB also approves the form and content of the informed consent that must be signed by each clinical trial subject or his or her legal representative and must monitor the clinical trial until completed.

Human clinical trials are typically conducted in three sequential phases that may overlap or be combined:

- *Phase 1*. The biological product is initially introduced into a small group of healthy human subjects (e.g., 10 to 20 volunteers) and tested for safety. In the case of some products for severe or life-threatening diseases, especially when the product may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients.
- *Phase 2*. The biological product is evaluated in a larger but limited patient population (e.g., a few hundred patients) to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance, optimal dosage and dosing schedule.
- *Phase 3*. Clinical trials are undertaken to further evaluate dosage, clinical efficacy, potency and safety in an expanded patient population (e.g., several hundred to several thousand patients) at geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk/benefit ratio of the product and provide an adequate basis for product labeling.

Post-approval clinical trials, sometimes referred to as Phase 4 clinical trials, may be conducted after initial marketing approval. These clinical trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication, particularly for long-term safety follow-up.

During all phases of clinical development, regulatory agencies require extensive monitoring and auditing of all clinical activities, clinical data and clinical trial investigators. Annual progress reports detailing the results of the clinical trials must be submitted to the FDA. Written IND safety reports must be promptly submitted to the FDA, the NIH and the investigators for serious and unexpected AEs, any findings from other studies, tests in laboratory animals or in vitro testing and other sources that suggest a significant risk for human subjects, or any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. The sponsor must submit an IND safety report within 15 calendar days after the sponsor determines that the information qualifies for reporting. The sponsor also must notify the FDA of any unexpected fatal or life-threatening suspected adverse reaction within seven calendar days after the sponsor's initial receipt of the information. Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, if at all. The FDA or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the biological product has been associated with unexpected serious harm to patients.

Pursuant to the Cures Act, the manufacturer of an investigational drug for a serious disease or condition is required to make available, such as by posting on its website, its policy on evaluating and responding to requests for individual patient access to such investigational drug. This requirement applies on the later of 60 calendar days after the date of enactment of the Cures Act or the first initiation of a Phase 2 or Phase 3 trial of the investigational drug.

The Cures Act also includes enhanced privacy protections for participants in medical research or clinical trials. For example, the Secretary must issue researchers who receive funding from an agency a "certificate of confidentiality." The Cures Act permits the Secretary to issue certificates of confidentiality to privately funded researchers as well. The certificates require researchers to keep all personally identifiable information and biospecimens confidential, absent an exception. The Director of NIH is also permitted to require grant recipients to share the data that is generated from the NIH-funded research, consistent with Federal laws and regulations. In addition to these protections, the final rule for the Federal Policy for the Protection of Human Subjects, originally promulgated as a Common Rule in 1991, was published in the Federal Register on January 19, 2017, to become effective on January 19, 2018. The amended Common Rule offers additional protections to the privacy of persons who are research subjects.

Concurrent with clinical trials, companies usually complete additional animal studies, develop additional information about the physical characteristics of the biological product and finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. To help reduce the risk of the introduction of adventitious agents with use of biological products, the PHS Act emphasizes the importance of manufacturing control for products whose attributes cannot be precisely defined. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, the sponsor must develop methods for testing the identity, strength, quality, potency and purity of the final biological product. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the biological product candidate does not undergo unacceptable deterioration over its shelf life.

Review and Approval Processes

After the completion of clinical trials of a biological product, FDA approval of a BLA must be obtained before commercial marketing of the biological product. The BLA must include results of product development, laboratory and animal studies, human studies, information on the manufacture and composition of the product, proposed labeling and other relevant information. In addition, under the Pediatric Research Equity Act, or PREA, a BLA or supplement to a BLA must contain data to assess the safety and effectiveness of the biological product for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may grant deferrals for submission of data or full or partial waivers. The testing and approval processes require substantial time and effort and there can be no assurance that the FDA will accept the BLA for filing and, even if filed, that any approval will be granted on a timely basis, if at all. In addition, BLAs for seasonal influenza vaccines are currently required to be submitted annually, and Altimmune would expect the same requirement to be applicable to its influenza product candidate.

Under the Prescription Drug User Fee Act, or PDUFA, as amended, each BLA must be accompanied by a significant user fee. According to the FDA's fee schedule, effective from October 1, 2016 through September 30, 2017, the user fee for an application requiring clinical data, such as an NDA, is $2,038,100. PDUFA also imposes an annual product fee for biologics and an annual establishment fee on facilities used to manufacture prescription biologics. Fee waivers or reductions are available in certain circumstances, including a waiver of the application fee for the first application filed by a small business.

Within 60 days following submission of the application, the FDA reviews the BLA to determine if it is substantially complete before the agency accepts it for filing. The FDA may refuse to file any BLA that it deems incomplete or not properly reviewable at the time of submission and may request additional information. In this event, the BLA must be resubmitted with the additional information. The resubmitted application also is subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review of the BLA. The FDA reviews the BLA to determine, among other things, whether the proposed product is safe and potent, or effective, for its intended use, and has

an acceptable purity profile, and whether the product is being manufactured in accordance with cGMP to assure and preserve the product's identity, safety, strength, quality, potency and purity. The FDA may refer applications for novel biological products or biological products that present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions. During the biological product approval process, the FDA also will determine whether a Risk Evaluation and Mitigation Strategy, or REMS, is necessary to assure the safe use of the biological product. If the FDA concludes a REMS is needed, the sponsor of the BLA must submit a proposed REMS; the FDA will not approve the BLA without a REMS, if required.

Before approving a BLA, the FDA will inspect the facilities at which the product is manufactured. The FDA will not approve the product unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving a BLA, the FDA will typically inspect one or more clinical sites to assure that the clinical trials were conducted in compliance with IND study requirements and GCP requirements. To assure cGMP, GTP and GCP compliance, an applicant must incur significant expenditure of time, money and effort in the areas of training, record keeping, production and quality control.

Notwithstanding the submission of relevant data and information, the FDA may ultimately decide that the BLA does not satisfy its regulatory criteria for approval and deny approval. Data obtained from clinical trials are not always conclusive and the FDA may interpret data differently than Altimmune interprets the same data. If the agency decides not to approve the BLA in its present form, the FDA will issue a complete response letter that usually describes all of the specific deficiencies in the BLA identified by the FDA. The deficiencies identified may be minor, for example, requiring labeling changes; or major, for example, requiring additional clinical trials. Additionally, the complete response letter may include recommended actions that the applicant might take to place the application in a condition for approval. If a complete response letter is issued, the applicant may either resubmit the BLA, addressing all of the deficiencies identified in the letter, or withdraw the application.

If a product receives regulatory approval, the approval may be significantly limited to specific diseases and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product. Further, the FDA may require that certain contraindications, warnings or precautions be included in the product labeling. The FDA may impose restrictions and conditions on product distribution, prescribing, or dispensing in the form of a risk management plan, or otherwise limit the scope of any approval. In addition, the FDA may require post-marketing clinical trials, sometimes referred to as Phase 4 clinical trials, designed to further assess a biological product's safety and effectiveness, and testing and surveillance programs to monitor the safety of approved products that have been commercialized.

Post-Approval Requirements

After regulatory approval of a product is obtained, there may be a number of post-approval requirements. For example, as a condition of approval of a BLA, the FDA may require post-marketing testing and surveillance to monitor the product's safety or efficacy. In addition, holders of an approved BLA are required to keep extensive records, to report certain adverse reactions and production problems to the FDA, to provide updated safety and efficacy information and to comply with requirements concerning advertising and promotional labeling for their products. Also, quality control and manufacturing procedures must continue to conform to cGMP regulations and practices, as well as the manufacturing conditions of approval set forth in the BLA. The FDA periodically inspects manufacturing facilities to assess compliance with cGMP, which imposes certain procedural, substantive and recordkeeping requirements. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain compliance with cGMP and other aspects of regulatory compliance.

Future FDA inspections may identify compliance issues at manufacturer facilities or at the facilities of third-party suppliers that may disrupt production or distribution, or require substantial resources to correct and prevent recurrence of any deficiencies, and could result in fines or penalties by regulatory authorities. In addition, discovery of problems with a product or the failure to comply with applicable requirements may

result in restrictions on a product, manufacturer or holder of an approved BLA, including withdrawal or recall of the product from the market or other voluntary, FDA-initiated or judicial action, including fines, injunctions, civil penalties, license revocations, seizure, total or partial suspension of production or criminal penalties, any of which could delay or prohibit further marketing. Newly discovered or developed safety or efficacy data may require changes to a product's approved labeling, including the addition of new warnings and contraindications.

Certain U.S. Regulatory Incentives and Other Programs

Animal Rule and Project BioShield Emergency Use Authorization

In 2002, the FDA amended its requirements applicable to BLAs to permit the approval of certain biologics that are intended to reduce or prevent serious or life-threatening conditions based on evidence of safety from trial in healthy subjects and effectiveness from appropriate animal studies when human efficacy studies are not ethical or feasible. These regulations, also known as the "Animal Rule," and published in the Code of Federal Regulations (21 CFR 601 Subpart H), authorize the FDA to rely on evidence from animal studies to provide evidence of a product's effectiveness under circumstances where there is a reasonably well-understood mechanism for the toxicity of the agent. Under these requirements, and with FDA's prior agreement, biologics used to reduce or prevent the toxicity of chemical, biological, radiological or nuclear substances may be approved for use in humans based on evidence of effectiveness derived from appropriate animal studies and any additional supporting data. Products evaluated for effectiveness under this rule are evaluated for safety under preexisting requirements for establishing the safety of new drug and biological products, including Phase 1 through Phase 2 clinical trials. Under certain circumstances a single animal species may be acceptable if that animal model is sufficiently well-characterized for predicting a response in humans. The animal study endpoint must be clearly related to the desired benefit in humans and the information obtained from animal studies must allow for selection of an effective dose in humans. The Animal Rule also requires post-marketing studies, such as field studies, to verify and describe the product's clinical benefit and assess its safety should an exigency exists that leads to the product being used in humans; the nature of these studies will be discussed with FDA as part of the BLA process. Products approved under the Animal Rule are subject to additional requirements, such as restrictions imposed on marketing or distribution or requirements to provide information to patients.

The Animal Rule drug development pathway typically involves costs and time in excess of what would be expended in conducting human vaccine clinical trials not requiring compliance with the Animal Rule. There is an alternative regulatory pathway available for biological warfare drug candidates, called Emergency use Authorization under the Project BioShield Act of 2004, or Project BioShield, which avoids the Animal Rule's reliance on animal models focused on efficacy. Altimmune is seeking to rely upon Emergency Use Authorization, but there can be no assurance that this alternative model will apply to its anthrax vaccine product candidate.

Under Project BioShield, the Secretary of HHS may, with the concurrence of the Secretary of the Department of Homeland Security, or DHS, and upon the approval of the President, contract to purchase unapproved medical countermeasures for the Strategic National Stockpile, or SNS, in specified circumstances. The U.S. Congress is notified of a recommendation for a stockpile purchase after Presidential approval. Project BioShield specifies that a company supplying the countermeasure to the SNS is paid on delivery of a substantial portion of the countermeasure. To be eligible for purchase under these provisions, the Secretary of HHS must determine that there are sufficient and satisfactory clinical results or research data, including data, if available, from preclinical studies and clinical trials, to support a reasonable conclusion that the countermeasure will qualify for approval or licensing within eight years. The legislation also allows unlicensed products to be procured for the SNS so that they are available at the time an emergency is declared.

Project BioShield also allows the Secretary of HHS to authorize the emergency use of medical products that have not yet been approved by the FDA. To exercise this authority, the Secretary of HHS must conclude that:

- the agent for which the countermeasure is designed can cause serious or life-threatening disease;

- based on the totality of scientific evidence available to the Secretary of HHS, including data from adequate and well-controlled clinical trials, if available, it is reasonable to believe that the product may be effective in detecting, diagnosing, treating or preventing the disease;
- the known and potential benefits of the product outweigh its known and potential risks; and
- there is no adequate, approved, and available alternative to the product for diagnosing, preventing, or treating such disease or condition.

Although this provision permits the Secretary of HHS to circumvent the FDA approval process, its use would be limited to rare circumstances. Altimmune's product candidates will be eligible both for consideration for procurement into the SNS and for use in the event of an emergency, although there is no guarantee that its product candidates will meet the criteria set forth by HHS or the FDA for procurement and Emergency use Authorization, respectively. Both Altimmune's NasoShield anthrax vaccine product candidate and its NasoVAX pandemic influenza vaccine product candidate may potentially be eligible for the SNS under Project BioShield.

Marketing Exclusivity for Reference Biological Products

As part of the ongoing efforts of governmental authorities to lower health care costs by facilitating generic competition to pharmaceutical products, the BPCIA, enacted as part of the Health Care Reform Law, created a new abbreviated regulatory approval pathway in the United States for biological products that are found to be "biosimilar" to interchangeable with a biological "reference product" previously licensed under a BLA. This abbreviated approval pathway is intended to permit a biosimilar to come to market more quickly and less expensively by relying to some extent on the data generated by the reference product's sponsor, and the FDA's previous review and approval of the reference product. Under the BPCIA, a biosimilar sponsor's ability to seek or obtain approval through the abbreviated pathway is limited by periods of exclusivity granted by the FDA to the holder of the reference product's BLA, and no biosimilar application may be accepted by the FDA for review until 4 years after the date the reference product was first licensed by the FDA, and no biosimilar application, once accepted, may receive final approval until 12 years after the reference product was first licensed by the FDA.

While Altimmune would expect to be granted this 12-year period of exclusivity for its product candidates, if approved, notably, this period of reference product market exclusivity applies only to the biosimilar pathway and will not, for example, provide protection against any biological product for a similar indication that achieves FDA approval under a traditional BLA based on the sponsor's own research data There is also risk that the 12-year period of biological reference product exclusivity could be shortened due to congressional action, or that the FDA will not consider Altimmune's product candidates, if they are approved, to be reference products for competing products, potentially creating the opportunity for competition sooner than anticipated. Once approved, biosimilars likely would compete with, and in some circumstances may be deemed under the law to be "interchangeable with," the previously approved reference product. To date, only four biosimilars has been licensed under the BPCIA framework, and the extent to which a biosimilar, once approved, will be substituted for any one of Altimmune's product candidates, if approved, in a way that is similar to traditional generic substitution for non-biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing. Although there is uncertainty regarding the impact of this new program, it seems likely that if any of Altimmune's product candidates are approved by the FDA, there is risk that the approval of a biosimilar competitor to one of its products could have an adverse impact on its business. In particular, a biosimilar could be significantly less costly to bring to market and priced significantly lower than Altimmune's product, if approved by the FDA.

FDA Fast Track Programs

Certain FDA programs are intended to speed the availability of drugs that treat serious diseases, which could potentially apply to Altimmune's product candidates, although this cannot be assured, and Altimmune does not currently have any products with fast track designation. The FDA fast track programs, one of which is fast track designation, are designed to facilitate the development and review of new drugs that are intended to treat serious or life-threatening conditions and that demonstrate the potential to address unmet medical needs for the conditions. Fast track designation applies to a combination of the product and the specific indication for which it is being studied. Thus, it is the development program for a specific drug for a specific

indication that receives fast track designation. The sponsor of a product designated as being in a fast track drug development program may engage in close early communication with the FDA, including through timely meetings and feedback on clinical trials. Products in fast track drug development programs also may be eligible for FDA priority review or accelerated approval, if relevant criteria are met; in other words, the review cycle may have a six-month review clock instead of a twelvemonth review clock). Sponsors may also be able to submit completed portions of an application before the entire application is completed; however, the review clock will not officially begin until the entire completed BLA is submitted to and filed by the FDA. The FDA may notify a sponsor that its program is no longer classified as a fast track development program if the fast track designation is no longer supported by emerging data, the designated drug development program is no longer being pursued, or another product that meets the unmet medical need for the same indication.

Pediatric Exclusivity

Under the BPCIA, which was part of the Health Care Reform Law, biologics, such as Altimmune's product candidates, may be eligible for pediatric exclusivity, an incentive intended to encourage medical product research for children. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods applicable to biological products under the BPCIA — namely, the four-year period during which the FDA will not consider an application for a biosimilar product, and the 12-year period during which the FDA will not approve a biosimilar application. This six-month exclusivity, which runs from the end of these exclusivity protection periods, may be granted based on the voluntary completion of a pediatric trial in accordance with an FDA-issued "written request" for such a trial. It is possible, but not assured, that certain of Altimmune's current or future product candidates may be targeted to pediatric populations, such as Altimmune's influenza vaccine candidates, and so pursuit of this incentive may be relevant to Altimmune.

Orphan Drug Designation

The FDA may grant orphan drug designation to drugs intended to treat a "rare disease or condition" that affects fewer than 200,000 individuals in the United States, or that affects more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making available in the United States a drug for such a disease or condition will be recovered from sales in the United States for that drug. Orphan drug designation must be requested before submitting an application for marketing approval. Orphan drug designation can provide opportunities for grant funding towards clinical trial costs, tax advantages and FDA user fee exemptions. In addition, if a product that has an orphan drug designation subsequently receives FDA approval for the indication for which it has such designation, the product may be entitled to orphan drug exclusivity, which means the FDA would not approve any other application to market the same drug for the same indication for a period of seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan exclusivity or a meaningfully different mode of administration. It is possible, but not assured, that certain of Altimmune's current or future product candidates may be targeted to rare diseases or conditions, such as with respect to Altimmune's cancer vaccine activities, and so pursuit of this incentive may be relevant to Altimmune.

U.S. Regulations Affecting Certain Federally Funded Programs, such as Medicare and Medicaid

Pharmaceutical manufacturers with products that are reimbursed by U.S. federally funded programs such as Medicare and Medicaid are subject to regulation by CMS and enforcement by HHS OIG, and in the event Altimmune's product candidates are approved, regulation by CMS and enforcement by HSS OIG would be relevant to Altimmune. Some of these laws, referred to as "false claims laws," prohibit the submission or causing the submission of false or fraudulent claims for reimbursement to federal, state and other health care payers and programs. Other laws, referred to as "anti-kickback laws," prohibit soliciting, offering, receiving or paying remuneration in order to induce the referral of a patient or ordering, purchasing, leasing or arranging for, or recommending ordering, purchasing or leasing of, items or services that are paid for by federal, state and other health care payers and programs.

The federal Anti-Kickback Law prohibits providers and others from directly or indirectly soliciting, receiving, offering or paying any remuneration with the intent of generating referrals or orders for services or items covered by a government health care program. Many states have enacted similar laws. Courts have interpreted this law very broadly, including by holding that a violation has occurred if even one purpose of the remuneration is to generate referrals, even if there are other lawful purposes. There are statutory and

regulatory exceptions, or safe harbors, that outline arrangements that are deemed lawful. However, the fact that an arrangement does not fall within a safe harbor does not necessarily render the conduct illegal under the Anti-Kickback Law. In sum, even common business arrangements, such as discounted terms and volume incentives for customers in a position to recommend or choose drugs for patients, such as physicians and hospitals, can result in substantial legal penalties, including, among others, exclusion from Medicare and Medicaid programs, and arrangements with referral sources must be structured with care to comply with applicable requirements. Also, certain business practices, such as payment of consulting fees to health care providers, sponsorship of educational or research grants, charitable donations, interactions with health care providers that prescribe products for uses not approved by the FDA and financial support for continuing medical education programs, must be conducted within narrowly prescribed and controlled limits to avoid the possibility of wrongfully influencing health care providers to prescribe or purchase particular products or as a reward for past prescribing. Violations of the Anti-Kickback Law may be punished by civil and criminal penalties or exclusion from participation in federal health care programs, including Medicare and Medicaid.

The FCA is violated by any entity that "presents or causes to be presented" knowingly false claims for payment to the federal government. In addition, the Health Care Reform Law amended the FCA to create a cause of action against any person who knowingly makes a false statement material to an obligation to pay money to the government or knowingly conceals or improperly decreases an obligation to pay or transmit money or property to the government. For the purposes of these recent amendments, an "obligation" includes an identified overpayment, which is defined broadly to include "any funds that a person receives or retains under Medicare and Medicaid to which the person, after applicable reconciliation, is not entitled…" The FCA is commonly used to sue those who submit allegedly false Medicare or Medicaid claims, as well as those who induce or assist others to submit a false claim. "False claims" can result not only from non-compliance with the express requirements of applicable governmental reimbursement programs, such as Medicaid or Medicare, but also from non-compliance with other laws, such as the Anti-Kickback Law or laws that require quality care in service delivery. The fraud and abuse regulations have been subject to varying interpretations, as well as heightened enforcement activity over the past few years, and significant enforcement activity has been the result of "relators," who serve as whistleblowers by filing complaints in the name of the United States (and if applicable, particular states) under federal and state false claims laws. Under the federal FCA, relators can be entitled to receive up to 30% of total recoveries. Also, violations of the FCA can result in treble damages and civil penalties ranging from $10,781 to $21,563 per claim. Most states have adopted similar state false claims laws, and these state laws have their own penalties which may be in addition to federal FCA penalties.

The Health Care Reform Law significantly strengthened the federal FCA and federal Anti-Kickback Law provisions, which could lead to the possibility of increased whistleblower or relator suits, and among other things made clear that a federal Anti-Kickback Law violation can be a basis for federal FCA liability. The bringing of any FCA action, even if unsuccessful could require Altimmune to devote resources to investigate and defend the action, as well as result in reputational harm. Failure to comply with fraud and abuse laws could result in significant civil and criminal penalties and costs, including the loss of licenses and the ability to participate in federal and state health care programs, and could have a material adverse effect on our business. In addition, many of these laws are vague or indefinite and have not been interpreted by the courts, and have been subject to frequent modification and varied interpretation by prosecutorial and regulatory authorities, increasing the risk of noncompliance. Altimmune cannot predict whether changes in applicable law, or interpretation of laws, or changes in its services or marketing practices in response to changes in applicable law or interpretation of laws, could have a material adverse effect on its business..

U.S. Health Care Reform Law

Altimmune's financial prospects could be affected by changes in health care spending and policy in the United States and abroad. Altimmune operates in a highly regulated industry and new laws or judicial decisions, or new interpretations of existing laws or decisions, related to health care availability, the method of delivery or payment for health care products and services could negatively impact its business, operations and financial condition.

For example, in the United States there is significant interest in promoting health care reform, as evidenced by the enactment in the United States of the Patient Protection and Affordable Care Act and the companion Health Care and Education Reconciliation Act in 2010, or the Health Care Reform Law. The

Health Care Reform Law increased federal oversight of private health insurance plans and included a number of provisions designed to reduce Medicare expenditures and the cost of health care generally, to reduce fraud and abuse, and to provide access to increased health coverage.

The Health Care Reform Law has also imposed substantial changes to the U.S. system for paying for health care, including programs to extend medical benefits to millions of individuals who have lacked insurance coverage. Generally, implementation of the Health Care Reform Law has thus far included significant cost-saving, revenue and payment reduction measures with respect to, for example, several government health care programs that might cover Altimmune's products in the United States, should they be commercialized, including Medicaid and Medicare. Additional downward pricing pressure associated with the Health Care Reform Law includes that the Health Care Reform Law established and provided significant funding for a Patient-Centered Outcomes Research Institute to coordinate and fund Comparative Effectiveness Research, as those terms are defined in the Health Care Reform Law. While the stated intent of Comparative Effectiveness Research is to develop information to guide providers to the most efficacious therapies, outcomes of Comparative Effectiveness Research could influence the reimbursement or coverage for therapies that are determined to be less cost effective than others. Should any of Altimmune's products be approved for sale, but then determined to be less cost effective than alternative therapies, the levels of reimbursement for these products, or the willingness to reimburse at all, could be impacted, which could materially impact its financial results.

President Trump and the majorities of both houses of Congress have stated their intention to repeal and replace the Health Care Reform Law. The uncertain status of the Health Care Reform Law limits Altimmune's ability to forecast changes that may occur in the future, which may have a negative impact on its business.

Another provision of the Health Care Reform Law, generally referred to as the Physician Payment Sunshine Act or Open Payments Program, has imposed new reporting and disclosure requirements for pharmaceutical and medical device manufacturers and distributors with certain FDA-approved products, such as approved vaccines, with regard to payments or other transfers of value made to certain U.S. health care practitioners, such as physicians and academic medical centers, and with regard to certain ownership interests held by physicians in reporting entities. The Centers for Medicare & Medicaid Services, or CMS, publishes information from these reports on a publicly available website, including amounts transferred and the physician and teaching hospital identities.

Under the Physician Payment Sunshine Act, Altimmune is required to collect and report detailed information regarding certain financial relationships it has with physicians and teaching hospitals. Altimmune's compliance with these rules may also impose additional costs. It is difficult to predict how the new requirements, which also preempt similar state law reporting requirements, may impact Altimmune's relationships between pharmaceutical companies and physicians or teaching hospitals.

It is likely that federal and state legislatures within the United States and foreign governments will continue to consider changes to existing health care legislation. Altimmune cannot predict the reform initiatives that may be adopted in the future or whether initiatives that have been adopted will be repealed or modified. The continuing efforts of the government, insurance companies, managed care organizations and other payers of health care services to contain or reduce costs of health care may adversely affect:

- the demand for any product candidates for which Altimmune may obtain regulatory approval;
- our ability to set a price that Altimmune believes is fair for its products;
- our ability to obtain coverage and reimbursement approval for a product;
- our ability to generate revenues and achieve or maintain profitability; and
- the level of taxes that Altimmune is required to pay.

Environmental Regulations

Altimmune is also subject to regulation under the Occupational Safety and Health Act, the Environmental Protection Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act and other present and potential federal, state or local regulations, including national and local regulations that govern

Altimmune's facility in France. These and other laws govern Altimmune's use, handling and disposal of various biological and chemical substances used in, and waste generated by its operations. Altimmune's research and development involves the controlled use of hazardous materials, chemicals and viruses. Although Altimmune believes that its safety procedures for handling and disposing of such materials comply with the standards prescribed by state and federal regulations, the risk of accidental contamination or injury from these materials cannot be completely eliminated. In the event of such an accident, Altimmune could be held liable for any damages that result and any such liability could exceed its resources. Additionally, for formulations containing controlled substances, Altimmune is subject to Drug Enforcement Act regulations.

Pricing Regulations

There have been a number of federal and state legislative changes made over the last few years regarding the pricing of pharmaceutical and biological products, government control and other changes to the health care system of the United States. Concerns about drug pricing have been expressed by members of Congress and President Trump. It is uncertain how such legislative changes will be adopted or what actions federal, state or private payers for medical goods and services may take in response to such legislation. Altimmune cannot predict the effect such health care changes will have on its business, and no assurance can be given that any such reforms will not have a material adverse effect.

Non-U.S. Government Regulations

European Drug Development

Altimmune's products will also be subject to extensive regulatory requirements in the European Union. As in the United States, medicinal products can only be marketed if a marketing authorization from the competent regulatory agencies has been obtained. See "— European Marketing Authorization" below.

As in the United States, the various phases of preclinical and clinical research in European Union are subject to significant regulatory controls. The EU Clinical Trials Directive (2001/20/EC) (Clinical Trials Directive) provides the clinical trials regulatory framework in the European Union, but the European Union member states have transposed and applied the provisions of the Directive differently. This has led to significant variations in the regimes of the different member states. Under the current regime, before a clinical trial can be initiated it must be approved in each of the European Union countries where the trial is to be conducted by the relevant National Competent Authority (NCA), and one or more Ethics Committees (ECs), and a Clinical Trial Authorization must be obtained.

Similar to the FDA, Europe's Committee for Medicinal Products for Human use (CHMP) has adopted ICH S6 as a guideline governing preclinical testing of biologics. Sponsors usually must conduct pharmacodynamic (PD) studies, such as in vitro binding assays and in vivo studies that assess the product's pharmacologic activity and define its mechanism of action. Biologics typically undergo single- and repeat-dose toxicity studies using relevant species. Safety pharmacology studies, which evaluate the product's functional effects on major body systems and specific organs, and local tolerance testing can be done separately or subsumed in toxicity testing. Sponsors also usually conduct single- and multiple-dose pharmacokinetic (PK) and/or toxicokinetic studies to assess absorption, disposition, exposure and clearance (in particular, antibody-mediated clearance), and explore dose-response relationships. This information is used to predict margins of safety for human studies. Immunogenicity testing might include screening and mechanistic studies.

Clinical Trial Authorization in the European Union

The Clinical Trials Directive and European Commission guidance describe the steps that a sponsor must take before commencing a clinical trial. According to these documents, a clinical trial may commence only if: (i) the anticipated therapeutic and public health benefits outweigh any foreseeable risks and inconveniences to the subjects; (ii) the trial subjects understand the objectives and risks of the trial and give informed, written consent to participate; (iii) the trial safeguards the physical and mental integrity of the subjects; and (iv) insurance covers the liability of the sponsor and investigator. To comply with these requirements, the trial sponsor must take certain steps. In general, the sponsor must take responsibility for trial conduct, appointment of an appropriate investigator, selection of the institution that will conduct the trial, quality control, data collection standards, protocol drafting, and creation of the investigator's brochure. The sponsor then must

apply for approval from both the ethics committee and the relevant NCA in the member state. Written authorization may be required for all biologics trials and is required for trials involving medicines containing genetically modified organisms, medicines for gene therapy, and medicines for somatic cell therapy (including xenogenic cell therapy). The opinion of the ethics committee should be issued within 60 days. A review period of 30 days can be added for medicines requiring written authorization noted earlier, and for xenogenic cell therapy, there are no time limits for authorization. This timeframe can be extended by an additional 90 days (in addition to the original 90 days) if the ethics committee consults a national group or committee. The trial may begin only if (i) the ethics committee has issued a favorable opinion and (ii) no competent authority has informed the applicant of grounds for non-acceptance.

Good Clinical Practices and Other Considerations for Clinical Trials

Clinical trials of biologics must comply with GCP, as described in Directive 2005/28/EC on Good Clinical Practice and the ICH E6 guideline, which the CHMP has adopted. The directive and guideline describe general governing principles for clinical trials. The rights, safety and well-being of trial subjects must prevail over the interests of science and society. Investigators must obtain freely given informed consent from every trial subject before each subject is enrolled. Clinical trial information must be handled, recorded and stored with respect for relevant confidentiality and privacy rules. Trials must comply with the ethical principles of the World Medical Association's Declaration of Helsinki. Specific GCP guidelines apply to trials of advanced therapy medicinal products. These guidelines regulate issues such as the donation, procurement and testing of human tissues and cells; the implementation of a traceability system; and specific rules on safety reporting and long-term follow-up. Under the Clinical Trials Directive, special requirements apply to clinical trials conducted on minors and other persons not able to give informed legal consent. These requirements are intended to preserve the dignity of the trial subjects, confirm that the benefits of the trial outweigh the risks and ensure that subjects' representatives give consent with as much involvement of the subject as possible. Competent authorities must record information regarding trials in the European database of clinical trials, or EudraCT, which is accessible only to other competent authorities, the European Medicines Agency, or EMA, and the European Commission. CHMP has issued a guideline on quality requirements during the clinical trial period for investigational medicinal products, or IMPs, containing biological or biotechnology-derived substances. The guideline describes quality documentation that should be submitted to the competent authority as part of the sponsor's investigational medicinal product dossier, or IMPD. The IMPD should include, among other things, (i) an adequate description of the process and process controls, including a flow chart of all successive steps and details of in-process testing and (ii) a description and justification of "any reprocessing during manufacture of the drug substance." The guideline also recognizes that sponsors will improve and optimize their manufacturing processes during clinical development and describes the steps sponsors should take following these changes. Specifically, the sponsor must compare the quality attributes of the pre- and post-change biological active substances and relevant intermediates, and conduct a comparability exercise where necessary. For first-in-human clinical trials, sponsors should use product representative of the material used during the non-clinical testing phase. Finally, with regard to characterization, the guideline requires details on the biological activity to be provided, recognizing that the extent of characterization data will further increase in later phases.

Study Design Considerations

General regulatory guidance on study design applies to biologics as well as small molecule medicines. According to the guidance, there is a "close, but variable correlation" between phase of development and type of study, but one type of trial can occur in several different phases. The guidance therefore identifies the most typical kind of study for each phase.

Phase 1 usually involves the initial introduction of the investigational product into human subjects, and studies in this phase usually have non-therapeutic objectives. Specifically, Phase 1 studies typically investigate initial safety and tolerability, PK, PD and/or drug activity, to preliminarily determine the potential therapeutic benefit of a medicine. Phase 1 studies may be conducted in healthy volunteers or certain types of patients. If the medicine has significant potential toxicity (e.g., cytotoxic products), the trial will usually be conducted in patients.

The most typical Phase 2 study is a therapeutic exploratory study that explores efficacy in narrowly defined, relatively homogenous groups of patients. Initially, studies may use a variety of designs

(e.g., concurrent controls and comparisons with baseline status). Subsequent Phase 2 trials usually are randomized and concurrently controlled, allowing for evaluation of the medicine's safety and efficacy for a particular indication. A major goal of this phase is to determine the dose(s) for Phase 3 trials.

Phase 3 typically involves therapeutic confirmatory studies that are designed to verify the preliminary evidence obtained in Phase 2 and to provide a sufficient basis for marketing authorization. Phase 3 studies may also further explore the dose response relationship, or explore the drug's use in wider populations, in different stages of disease, or in combination with another drug. With regard to medicines administered for long periods, extended exposure trials ordinarily occur during Phase 3, although the sponsor may start them in Phase 2.

To ensure that clinical trials in all three phases of development will be adequate to support a Marketing Authorization Application, or MAA, sponsors should design these trials with the MAA requirements in mind. Biologics in general need to comply with the requirements set out in Part III of the Annex I to Directive 2003/63/EC, and advanced therapy medicinal products need to comply with the requirements described in Part IV.

Consultation with the European Medicines Agency

A sponsor may obtain, from the EMA, scientific advice regarding clinical trial protocols. Although this advice does not bind the ethics committees or NCAs and is not binding for purposes of a future MAA, it can be useful to guide revisions to the protocol. The agency's remarks will only address scientific issues and will generally focus on matters such as the selection of endpoints and comparator, the duration of treatment or follow-up and the design of pivotal studies. Advice also might address a sponsor's proposal to deviate from a CHMP guideline. If the applicant decides not to follow the EMA's advice, it should justify this decision in its MAA. EMA guidance details the procedures for requesting scientific advice. The fact that an applicant requests advice from EMA does not preclude it from also seeking advice from national competent authorities or from foreign regulators, such as the FDA. The process of obtaining advice from the national competent authorities is often less formal than requesting advice from the EMA, and such advice can prove helpful. Consequently, seeking such advice is a common choice among applicants. Applicants also may seek parallel scientific advice from the EMA and FDA. Generally, the parallel scientific procedure is available for "important breakthrough drugs," that is, products that the EMA and FDA have identified as falling within therapeutic areas of overlapping interest (e.g., oncology products, vaccines and blood products). The goal of these meetings is to provide clarity regarding the regulatory requirements of each region and the reasons for any differences between them. A sponsor requesting parallel scientific advice should authorize the agencies to exchange all information about the product, including trade secrets. After the parallel scientific advice procedure, each agency will provide its own independent advice on the questions at issue. There is no guarantee of harmonized advice or identical regulatory decisions on the approvability of the product.

European Marketing Authorization

In the European Economic Area, or EEA, which includes the 28 member states of the European Union plus Norway, Iceland and Liechtenstein, medicinal products can only be placed on the market after obtaining a Marketing Authorization, or MA. The MAA is based on the results of pharmaceutical tests, preclinical tests and clinical trials conducted on the medicinal product in question. There are two types of marketing authorization:

- The Centralized MA, which is issued by the European Commission through the Centralized Procedure, based on the opinion of the CHMP and which is valid throughout the entire territory of the EEA. The Centralized Procedure is mandatory for certain types of drugs, such as biotechnology medicinal products, orphan medicinal products, and medicinal products containing new active substances indicated for certain diseases. The Centralized Procedure is optional for other drugs provided eligibility criteria are met.
- National MAs, which are issued by the competent authorities of the member states of the EEA (for example, the MHRA in the United Kingdom) and only cover their respective territory, are available for drugs not falling within the mandatory scope of the Centralized Procedure. Where a drug has already been authorized for marketing in a member state of the EEA, this National MA can be

recognized in other member states through the Mutual Recognition Procedure. If the drug has not received a National MA in any member state at the time of application, it can be approved by multiple member states in parallel through the Decentralized Procedure.

Under the above described procedures, before granting the MA, the EMA or the competent authorities of the Member States of the EEA make an assessment of the risk-benefit balance of the drug on the basis of scientific criteria concerning its quality, safety and efficacy.

The Marketing Authorization Application: Contents and Approval Standard

Many biologics fall under the scope of the Centralized Procedure, which, as mentioned above, is mandatory for medicines developed through biotechnological methods, such as recombinant DNA technology; controlled expression of genes coding for biologically active proteins in prokaryotes and eukaryotes, including transformed mammalian cells; and hybridoma and mAb methods. For example, cell therapy, gene therapy, vaccines from strains developed through recombinant DNA technology (including gene deletion), and "any medicinal product for which a monoclonal antibody is used at any stage in the manufacturing process" are all subject to the Centralized Procedure. Nonetheless, some biologics are still approved at the member state level. For example, many vaccines do not fall within the scope of the Centralized Procedure. The EMA has published a guideline intended to harmonize the summaries of product characteristics and patient information leaflets for human vaccines.

With respect to the Centralized Procedure, the approval standards for biotechnology products are the same as for chemically synthesized medicines. Both types of products must be safe and effective and have appropriate quality. Because of their special characteristics, however, biotechnology products must comply with several additional dossier requirements. The MAA for a biotechnology product must meet the standard dossier submission requirements, as described in Article 8 of the Medicines Directive (2001/83/EC). Consequently, the MAA must generally comply with the Common Technical Document format, including with respect to Module I (administrative information, including labeling and mock-ups), Module 2 (various summaries), Module 3 (chemical, pharmaceutical and biological information), Module 4 (non-clinical reports) and Module 5 (clinical study reports). MAAs for biologics also must meet special requirements. The applicant must thoroughly describe the manufacturing process and must: (i) provide information on the origin and history of the starting materials; (ii) demonstrate that the active substance complies with specific measures for preventing the transmission of animal spongiform encephalopathies; (iii) if cell banks are used, demonstrate that cell characteristics remain unchanged at the passage level for production (and beyond); (iv) provide information as to whether there are adventitious agents in seed materials, cell banks, pools of serum or plasma, and all other materials of biological origin, and, if it is not possible to avoid the presence of potentially pathogenic adventitious agents, show that further processing ensures elimination or inactivation of the agents; (v) if possible, base vaccine production on a seed lot system and established cell banks; (vi) in case of medicines derived from human blood or plasma, describe the origin, criteria and procedures for the collection, transportation and storage of the starting material; and (vii) describe the manufacturing facilities and equipment. Other special rules apply certain types of biological medicines. For example, for plasma-derived medicinal products, the applicant must provide an information dossier, the Plasma Master File. MAAs for vaccines other than for influenza need to contain a Vaccine Antigen Master File. Special rules also apply to advanced therapy medicinal products, including gene therapies, somatic cell therapies and tissue-engineered products.

Data and Market Exclusivity in the European Union

In the European Union, new medicinal products qualify for eight years of data exclusivity upon marketing authorization and an additional two years of market exclusivity. This data exclusivity prevents regulatory authorities in the European Union from referencing the innovator's data to assess a generic or biosimilar application for eight years, after which generic marketing authorization can be submitted, and the innovator's data may be referenced, but not approved for two years. The overall ten-year period may be extended to a maximum of 11 years if, during the period of data exclusivity, the marketing authorization holder obtains an authorization for one or more new therapeutic indications which, during the scientific evaluation prior to their authorization, are held to bring a significant clinical benefit in comparison with existing therapies.

Orphan Designation in the European Union

The EMA is also able to grant orphan designation in respect of medicinal products. To qualify the medicinal product must be intended for the diagnosis, prevention or treatment of (i) a life-threatening or chronically debilitating condition affecting not more than 5 in 10,000 persons in the European Union or (ii) a life-threatening, seriously debilitating or serious and chronic condition in the European Union where without incentives it is unlikely that the marketing of the medicinal product in the European Union would generate sufficient return to justify the necessary investment. Further, no satisfactory method of diagnosis, prevention or treatment of the condition in question must exist in the European Union or, if such method exists, the medicinal product must be of significant benefit to those affected by that condition.

Orphan medicinal products still remain subject to the same regulatory approval process, albeit that they are always assessed through the Centralized Procedure. However, sponsors of orphan medicinal products are eligible to benefit from a number of incentives offered, including certain assistance with development of the medicinal product, reduced fees for MA applications and protection from market competition once the medicinal product is authorized, as below.

Where an MA in respect of an orphan medicinal product is granted, the EMA and the competent authorities of the member states shall not, for a period of 10 years, accept another application for an MA, or grant an MA or accept an application to extend an existing MA, for the same therapeutic indication, in respect of a similar medicinal product, unless: (i) the holder of the MA for the original orphan medicinal product has given its consent to the second applicant; (ii) the holder of the MA for the original orphan medicinal product is unable to supply sufficient quantities of the medicinal product; or (iii) the second applicant can establish the second medicinal is safer, more effective or otherwise clinically superior.

Other Jurisdictions

In addition to regulations in the United States and the European Union, Altimmune may be subject to a variety of regulations in other jurisdictions governing, among other things, clinical trials and any commercial sales and distribution of its product. Whether or not Altimmune obtains FDA approval for a product, it must obtain approval from comparable regulatory authorities in foreign countries before it can commence clinical trials in such countries and the approval of the regulators of foreign countries before it may market products in such countries. The approval process and requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from place to place, and the time may be longer or shorter than that required for FDA approval.

Acceptance of Foreign Clinical Trials in the United States and Europe

The FDA has adopted regulations governing its acceptance of foreign clinical data not conducted under an IND to support IND applications or marketing authorizations, such as BLAs. The conditions include requirements regarding the ability of the FDA to conduct onsite inspections to validate such data, and compliance with GCPs. Where a marketing application is based solely on foreign data, additional requirements apply, including a demonstration that the foreign data are applicable to the U.S. population and U.S. medical practice.

EU Directive 2001/83/EC allows for clinical trials conducted outside the European Union to be taken into consideration during the review of an MAA in the European Union if such trials have been designed, implemented and reported based on principles equivalent to those of the Clinical Trials Directive with regard to good clinical practice and ethical principles. Moreover, they should comply with the ethical principles outlined in the Declaration of Helsinki. The applicant must submit a statement declaring such compliance as part of the MAA. In December 2008, the EMA published a strategy paper on the acceptance of data from foreign clinical trials conducted in “third countries,” particularly those outside the “‘traditional’ Western European and North American research areas.” According to this strategy paper, there is a “growing concern both among regulators and in public debate about how well these trials are conducted from an ethical and scientific/organizational standpoint.” The EMA has called for increased cooperation between international regulatory authorities involved in the supervision of clinical trials and has put forth other proposals to address these issues.

Manufacturing and Source of Supply

Altimmune does not have any manufacturing facilities. Altimmune currently relies, and expects to continue to rely, on third parties for the manufacture of its product candidates for preclinical studies and clinical trials, as well as for commercial manufacture if its product candidates receive marketing approval. To date, Altimmune has obtained materials for clinical trials and non-clinical studies from third-party manufacturers who are suppliers to it. For its product candidates, Altimmune intends to identify and qualify additional contract manufacturers to provide commercial scale manufacturing prior to submission of an NDA to the FDA.

Employees

As of December 31, 2016, Altimmune had 23 full-time employees, 11 of whom hold M.D. or Ph.D. degrees and 5 of whom hold other advanced degrees. Of Altimmune's total workforce, 16 are engaged primarily in research and development activities and 7 are engaged primarily in executive, finance and accounting, and administrative functions. As of December 31, 2016, Altimmune had 14 employees in the United States and 9 employees internationally. None of Altimmune's U.S. employees are represented by labor unions or covered by collective bargaining agreements. Altimmune considers its relations with its employees to be good.

Facilities

Altimmune's principal executive offices are located in Gaithersburg, Maryland, where it occupies approximately 6,210 square feet of laboratory and office space. Altimmune's lease term expires on October 31, 2018. Altimmune also have offices in London, United Kingdom and Strasbourg, France. Altimmune believes that its existing facilities are sufficient for its present and future operations, and it currently has no plans to lease additional space.

Legal Proceedings

From time to time, Altimmune is subject to various legal proceedings and claims that arise in the ordinary course of its business activities. Although the results of litigation and claims cannot be predicted with certainty, as of the date of this proxy statement/prospectus/consent solicitation, Altimmune does not believe it is party to any claim or litigation, the outcome of which, if determined adversely to it, would individually or in the aggregate be reasonably expected to have a material adverse effect on its business. Regardless of the outcome, litigation can have an adverse impact on Altimmune because of defense and settlement costs, diversion of management resources and other factors.

ALTIMMUNE'S MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of Altimmune's financial condition and results of operations together with the "Selected Historical and Unaudited Pro Forma Condensed Combined Financial Data." and Altimmune's consolidated financial statements and accompanying notes thereto included elsewhere in this proxy statement/prospectus/consent solicitation. Some of the information contained in this discussion and analysis or set forth elsewhere in this proxy statement/prospectus/consent solicitation, including information with respect to Altimmune's plans and strategy for its business and related financing, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the "Risk Factors" section of this proxy statement/prospectus/consent soliciation, Altimmune's actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

Altimmune is a clinical stage biopharmaceutical company incorporated in 1997 under the laws of the State of Delaware. Altimmune is focused on discovering and developing immunotherapies and vaccines to address significant unmet medical needs. Altimmune is headquartered in Maryland. In March 2015, Altimmune acquired all of the outstanding shares of Immune Targeting Systems (ITS) Limited in a share exchange transaction, or the Acquisition. Immune Targeting Systems (ITS) Limited, headquartered in the United Kingdom, was a clinical stage biopharmaceutical company focused on developing immunotherapies against the hepatitis B virus and cancer. Immune Targeting Systems (ITS) Limited, along with its wholly owned subsidiary in France, collectively referred to herein as ITS, were subsequently renamed Altimmune UK Limited, or Altimmune UK, and Altimmune France SAS, or Altimmune France, respectively. In anticipation of the Acquisition, Altimmune recapitalized its equity securities that included (i) the conversion of all outstanding preferred stock into common stock; (ii) the conversion of all preferred stock warrants into common stock warrants; (iii) a reverse stock split of all outstanding and converted common stock, common stock warrants, and common stock options at a 6.27-to-1 ratio; and (iv) the issuance of a common stock dividend to preferred stockholders in lieu of cash payments to settle accrued preferred dividends. Following the Acquisition, Altimmune's only outstanding class of capital stock was common stock, designated as Class A Common Stock and Class B Common Stock.

Altimmune's operations to date have been limited to organizing and staffing, business planning, raising capital, developing its technology, identifying potential vaccine and immunotherapy candidates, research and development, undertaking preclinical studies and conducting clinical trials. To date, Altimmune has financed its operations primarily through private placements of its preferred stock and common stock; issuance of debt securities; funding received from license agreements, research grants and contracts and its credit facility. Altimmune does not have any products approved for sale and has not generated any product sales. All of Altimmune's revenue to date has been generated from license revenue and research grants and contracts. Since its inception and through December 31, 2016, Altimmune has raised an aggregate of $62.4 million to fund its operations, of which $1.5 million was through license agreements, $36.0 million was from research grants and contracts, $22.4 million was from the sale of common and preferred stock and $2.5 million was from the issuance of debt securities. These amounts do not include approximately $40 million of investments raised by ITS prior to the Acquisition. As of December 31, 2016, Altimmune had cash totaling $2.9 million, of which $1.0 million was held by Altimmune UK and Altimmune France, designated solely for use in their operations.

In March 2015, Altimmune issued and sold 800,000 shares of common stock in a private offering for $8.0 million in gross proceeds in the first tranche of Altimmune's $16.0 million committed financing under its stock purchase agreement, dated as of March 10, 2015, by and among Altimmune and the investors party thereto, which was entered into in connection with its acquisition of ITS. The agreement provides for the granting of warrants to purchase shares of Altimmune's common stock at an exercise price of $0.01 per share. The warrants are contingently issuable at each closing of the Series B Preferred financing tranche of the committed financing, as described below. Also in March 2015, Altimmune borrowed $64,000 under its amended and restated credit facility with ServisFirst. On November 6, 2015, January 12, 2016, April 8, 2016 and August 19, 2016, Altimmune issued and sold an aggregate of 800,000 shares of its Series B Convertible Preferred Stock under the stock purchase agreement, and it issued warrants to certain investors to purchase an

aggregate of 718,185 shares of its common stock at an exercise price of $0.01 per share, for aggregate proceeds of $8.0 million. The November 2015, January 2016, April 2016 and August 2016 transactions were the four closings of the second $8.0 million tranche of committed financing under the stock purchase agreement, which Altimmune refers to as its Series B Preferred financing. The Series B Preferred financing consists of the November 2015, January 2016, April 2016 and August 2016 closings.

Since inception, Altimmune has incurred significant operating losses. Altimmune incurred a net loss of $6.6 million and $11.1 million for the years ended December 31, 2015 and 2016, respectively. As of December 31, 2016, Altimmune had an accumulated deficit of $31.3 million. Altimmune expects to continue incurring significant expenses and operating losses for at least the next several years as it:

- initiates and expands clinical trials for its seasonal and pandemic flu, chronic hepatitis B and anthrax vaccine product candidates;
- seeks regulatory approval for its product candidates;
- contracts to manufacture its product candidates;
- advances research and development related activities;
- maintains, expands and protects its intellectual property portfolio;
- hires additional staff, including clinical, scientific, operational and financial personnel, to execute its business plan; and
- adds personnel and financial and management information systems to support its product development and potential future commercialization efforts, and to enable it to operate as a public company.

Until such time, if ever, as Altimmune can generate substantial product revenues, it expects to finance its cash needs through a combination of equity offerings, debt financings, license and collaboration agreements with partners, and research grants. Altimmune may be unable to raise capital when needed or on reasonable terms, if at all, which would force it to delay, limit, reduce or terminate its product development or future commercialization efforts. Altimmune will need to generate significant revenues to achieve profitability, and it may never do so.

The consolidated financial information presented below includes the accounts of Altimmune, Inc. and Altimmune UK and Altimmune France. All intercompany accounts and transactions have been eliminated in consolidation.

Financial Overview

Revenue

To date, Altimmune has not generated any product sales. Altimmune's revenues have been derived from license agreements and research grants that generally provide for reimbursement of approved costs as those costs are incurred by it. Altimmune recognizes revenue and related accounts receivable from license agreements when the related services are provided, and from research grants when reimbursable expenses are incurred and the earnings process is complete.

Research and development expenses

Research and development expenses consist primarily of costs incurred for the development of Altimmune's product candidates, which include:

- expenses incurred under agreements with contract research organizations ("CROs") and investigative sites that conduct its clinical trials;
- employee-related expenses, including salaries, benefits, travel and stock-based compensation expense;

- costs associated with preclinical and clinical activities and regulatory operations, including the cost of acquiring, developing and manufacturing clinical trial materials; and
- facilities, depreciation and other expenses, which include direct and allocated expenses for insurance and other supplies.

Research and development costs are expensed as incurred. Costs for certain development activities are recognized based on an evaluation of the progress to completion of specific tasks using information and data provided to Altimmune by its vendors, CROs and clinical sites.

Altimmune cannot determine with certainty the duration and completion costs of the current or future clinical trials of its product candidates or if, when or to what extent it will generate sales from the commercialization of any of its product candidates if they receive regulatory approval. The successful development of Altimmune's product candidates is highly uncertain and may never result in approved products. The duration, costs and timing of clinical trials and development of Altimmune's product candidates will depend on a variety of factors, including:

- scope, rate of enrollment and expense of its ongoing, as well as any additional, clinical trials, and other research and development activities;
- significant and potentially changing government regulation; and
- the timing and receipt of regulatory approvals, if any.

A change in the outcome of any of these variables with respect to the development of a product candidate could mean a significant change in the costs and timing associated with the development of that product candidate. For example, if the FDA, or another regulatory authority were to require Altimmune to conduct clinical trials beyond those that it currently anticipates will be required for the completion of clinical development of a product candidate, Altimmune could be required to expend significant additional financial resources and time on the completion of clinical development.

Altimmune plans to increase its research and development expenses for the foreseeable future as it continues the development of clinical and preclinical candidates. Altimmune's current planned research and development activities include the following:

- commence Phase 2 trials of NasoVAX for the treatment of seasonal influenza in third quarter 2017, with initial data expected to become available within six months following initial enrollment;
- commence additional dose escalation trials of its quadrivalent NasoVAX vaccine in 2018 and a dose confirmation trial to follow;
- additional development of NasoVAX for the treatment of pandemic influenza, contingent on successful results in the treatment of seasonal influenza and non-dilutive funding from BARDA or other governmental agencies;
- continue its first clinical trial for HepTcell for the treatment of chronic hepatitis B, which began enrollment in July 2015, with initial results expected by the end of 2017;
- initiate its first clinical trial for NasoShield in anthrax in the first quarter of 2018 (subject to continued funding and other support from BARDA);
- pursue the research and development of immunotherapies based on tumor-associated antigens for application in multiple cancers; and
- manufacture clinical trial materials in support of its clinical trials.

To date, a significant portion of Altimmune's research and development efforts have been related to the development of NasoVAX and HepTcell product candidates. Altimmune does not allocate personnel-related costs, costs associated with its general research platform improvements, depreciation or other indirect costs to specific programs.

In addition to the research and development costs incurred through operations, as part of the Acquisition, Altimmune obtained access to certain technologies under development by ITS. The fair value of these incomplete technologies were recorded as intangible assets and consist of two discrete projects for the development of synthetic peptide-based T cell immunotherapeutics which use a proprietary fluorocarbon conjugated synthetic peptide platform technology to treat viral pathogens and cancer.

The first in-process research and development, or IPR&D, asset acquired in the Acquisition, which relates to Altimmune's HepTcell product candidate, has an estimated acquisition date fair value of $14.2 million. For purposes of determining the acquisition date fair value, Altimmune assumed an estimated total cost to completion of approximately $100.0 million and regulatory approval in 2022.

The second IPR&D asset acquired in the Acquisition, which relates to Altimmune's Oncosyn preclinical product development program in cancer, has an estimated acquisition date fair value of $3.5 million. For purposes of determining the acquisition date fair value, Altimmune assumed an estimated total cost to completion of approximately $100.0 million and regulatory approval in 2025.

As of the acquisition date, significant development, testing, clinical trials and regulatory approvals will be required in order to bring these product candidates to market. The actual cost and time to approval for any product candidate is subject to a number of variables, including clinical results and regulatory approvals, and there can be no assurance that Altimmune will be able to achieve approval in the time and for the cost estimated here.

General and administrative expenses

General and administrative expenses consist primarily of salaries and related costs for personnel, including stock-based compensation and travel expenses for Altimmune's employees in executive, operational, finance and human resource functions. Other general and administrative expenses include facility-related costs and professional fees for directors, accounting and legal services, and expenses associated with obtaining and maintaining Altimmune's intellectual property.

In December 2016, the Company suspended its efforts to effect a public offering of its common stock. The Company has included the deferred offering costs of $2.6 million as of December 31, 2016 as general and administrative expense.

Altimmune anticipates that its general and administrative expenses will increase in the future as it increases its headcount to support its continued research and development activities. Altimmune also anticipates increased expenses related to audit, legal, regulatory and tax-related services associated with maintaining compliance with exchange listing and Securities and Exchange Commission requirements, director and officer insurance, investor relations costs and other costs associated with being a public company. Additionally, if and when Altimmune believes a regulatory approval of the first product candidate appears likely, Altimmune anticipates an increase in staffing and related expenses as a result of its preparation for commercial operations, especially as it relates to the sales and marketing of its product candidates.

Interest expense

Interest expense consists of interest related to Altimmune's promissory notes and its credit facility.

Critical Accounting Policies and Significant Judgments and Estimates

Altimmune's management's discussion and analysis of its financial condition and results of operations are based on its consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States, or U.S. GAAP. The preparation of these financial statements requires Altimmune to make estimates and judgments that affect the reported amounts of assets, liabilities and expenses and the disclosure of contingent assets and liabilities in its financial statements. On an ongoing basis, Altimmune evaluate its estimates and judgments, including those related to revenue recognition, the fair value of common stock and other equity instruments, accounting for stock-based compensation, income taxes, collectability of accounts receivable, useful lives of long-lived assets, fair value of assets acquired and liabilities assumed, goodwill and accounting for project development and certain accruals. Altimmune bases its estimates on historical experience, known trends and events, and various other factors

that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

While Altimmune's significant accounting policies are described in more detail in the notes to its consolidated financial statements appearing elsewhere in this proxy statement/prospectus/consent solicitation, Altimmune believes the following accounting policies to be most critical to the judgments and estimates used in the preparation of its consolidated financial statements.

License revenue

License revenue is recognized when (i) persuasive evidence of an arrangement exists, (ii) delivery has occurred or services have been rendered, (iii) the fee is fixed or determinable, and (iv) collectability is reasonably assured. When one or more of the revenue recognition criteria are not met, Altimmune defers the recognition of revenue until such time that all criteria are met. Altimmune granted a license to one of its investors providing for an exclusive right to use, market, sell and import its potential vaccine products in South Korea. The terms of the agreement included non-refundable upfront fees, annual license maintenance fees and potential royalties from the licensee's sale of the licensed products. The non-refundable upfront fees are deferred and recognized over the license term, which is considered to extend to the expiration of all licensed patents included in the license. Altimmune recognizes annual license maintenance fees when due and payable if collection is reasonably assured. Royalty revenue, if any, will be recognized based upon actual and estimated net sales by the licensee in the period sales occur.

Research grants and contracts

Research grants are derived from government and foundation grants and contracts that support Altimmune's efforts on specific research projects. These grants and contracts generally provide for reimbursement of approved costs as those costs are incurred by Altimmune. Research grants and the related accounts receivable are recognized as earned when reimbursable expenses are incurred and the earnings process is complete. Payments received in advance of services being provided are recorded as deferred revenue.

Patent and licensing costs

Patent and licensing costs that are incurred on behalf of, or reimbursable under, research grant arrangements are capitalized as intangible assets and amortized over the estimated useful lives of the assets. All other patents and licensing costs are expensed as incurred because their realization is uncertain. These costs are classified as operating expenses in the consolidated statements of operations.

Research and development

Research and development costs are expensed as incurred. Research and development costs include payroll and personnel expense, consulting costs, external contract research and development expenses, raw materials, drug product manufacturing costs and allocated overhead including depreciation and amortization, rent and utilities. Research and development costs that are paid in advance of performance are recorded as a prepaid expense and amortized over the service period as the services are provided.

Stock-based compensation

Altimmune accounts for all stock-based compensation granted to employees and non-employees using a fair value method. Stock-based compensation awarded to employees is measured at the grant date fair value of stock option grants and is recognized over the requisite service period of the awards, usually the vesting period, on a straight-line basis, net of estimated forfeitures. Stock-based compensation awarded to non-employees is subject to revaluation over their vesting terms. For performance-based awards where the vesting of the options may be accelerated upon the achievement of certain milestones, vesting and the related stock-based compensation is recognized as an expense when it is probable the milestone will be met.

When awards are modified, Altimmune compares the fair value of the affected award measured immediately prior to modification to the value after modification. To the extent that the fair value of the modified award exceeds the original award, the incremental fair value of the modified award is recognized as compensation on the date of modification for vested awards, and over the remaining vesting period for unvested awards.

Altimmune reduces recorded stock compensation for estimated forfeitures. To the extent that actual forfeitures differ from its estimates, the differences are recorded as a cumulative adjustment in the period the estimates were adjusted. Stock-based compensation expense recognized in the consolidated financial statements is based on awards that are ultimately expected to vest.

See the section entitled "— Stock-Based Compensation and Common Stock Valuation" below for a discussion of the valuation methodology applied and the nature of the assumptions involved to estimate the fair value of Altimmune's common stock.

Foreign currency translation

Assets and liabilities of Altimmune UK and Altimmune France, whose functional currencies are British pounds and Euros, respectively, are translated at period-end exchange rates, while revenues and expenses are translated at average exchange rates for the period. Translation adjustments are reflected as accumulated other comprehensive loss within stockholders' (deficit) equity. Intercompany advances that Altimmune does not anticipate settling in the near future are reported as translation adjustments and are reflected as accumulated other comprehensive loss within stockholders' (deficit) equity. Gains and losses on foreign currency transactions are included in the consolidated statements of operations and comprehensive income (loss) as a component of operating expenses.

Business combination

Altimmune uses its best estimates and assumptions to accurately assign fair value to the tangible and intangible assets acquired and liabilities assumed.

Amounts paid for acquisitions are allocated to the tangible assets acquired and liabilities assumed based on their estimated fair values at the date of acquisition. Altimmune allocates the purchase price in excess of net tangible assets acquired to identifiable intangible assets, including purchased research and development. The fair value of identifiable intangible assets is based on detailed valuations that use information and assumptions provided by management. Altimmune allocates any excess purchase price over the fair value of the net tangible and intangible assets acquired to goodwill.

Altimmune's purchased research and development represents the estimated fair value as of the acquisition date of substantive in-process projects that have not reached technological feasibility. The primary basis for determining technological feasibility of these projects is obtaining regulatory approval.

The valuation of IPR&D is determined using the discounted cash flow method. In determining the value of IPR&D, Altimmune considers, among other factors, the stage of completion of the projects, the technological feasibility of the projects, whether the projects have an alternative future use and the estimated residual cash flows that could be generated from the various projects and technologies over their respective projected economic lives. The discount rate used is determined at the time of acquisition and includes a rate of return which accounts for the time value of money, as well as risk factors that reflect the economic risk that the cash flows projected may not be realized.

The value attributable to IPR&D projects at the time of acquisition is capitalized as an indefinite-lived intangible asset and tested for impairment until the project is completed or abandoned. Upon completion of the project, the indefinite-lived intangible asset is then accounted for as a finite-lived intangible asset and amortized on a straight-line basis over its estimated useful life. If the project is abandoned, the indefinite-lived intangible asset is charged to expense. Development related to the projects continues, and there are no indications of impairment present currently.

Goodwill

Goodwill represents the excess of the purchase price of an acquired entity over the amounts assigned to assets and liabilities assumed in a business combination. Altimmune tests goodwill for impairment during the fourth quarter of each year, or more frequently if impairment indicators arise, utilizing a two-step approach. The first step is to compare the carrying value of the reporting units to their respective fair values. Altimmune estimates the fair value of its reporting units through internal analyses and valuation, utilizing an income approach based on the present value of future cash flows. If the carrying value of a reporting unit exceeds its fair value, Altimmune performs the second step of the goodwill impairment test to measure the amount of impairment, if any. The second step compares the implied fair value of a reporting unit's goodwill with its carrying value. To determine the implied fair value of goodwill, Altimmune allocates the fair value of a reporting unit to all of the assets and liabilities of that unit, including intangible assets, as if the reporting unit had been acquired in a business combination. Any excess of the value of a reporting unit over the amounts assigned to its assets and liabilities represents the implied fair value of goodwill. Altimmune currently has one reporting unit, which represents the entire company. Based on Altimmune's analysis, there are no indications present of potential impairment of goodwill currently.

Recently issued accounting pronouncements

In May 2014, FASB issued Accounting Standards Update ("ASU") No. 2014-09, *Revenue from Contracts with Customers* ("ASU 2014-09"), as amended, which amends the guidance for revenue recognition to replace numerous industry-specific requirements. ASU 2014-09, as amended, implements a five-step process for customer contract revenue recognition that focuses on transfer of control, as opposed to transfer of risk and rewards. ASU 2014-09, as amended, also requires enhanced disclosures regarding the nature, amount, timing and uncertainty of revenues and cash flows from contracts with customers. Other major provisions include ensuring the time value of money is considered in the transaction price, and allowing estimates of variable consideration to be recognized before contingencies are resolved in certain circumstances. ASU 2014-09, as amended, is effective for reporting periods beginning after December 15, 2017. Early adoption is permitted, but not before December 15, 2016. Entities can transition to the standard either retrospectively or as a cumulative-effect adjustment as of the date of adoption. Altimmune is currently in the process of evaluating the effect the adoption of ASU 2014-09, as amended, may have on its financial statements, but does not anticipate that the effect will be material as revenues have not been significant.

In February 2016, FASB issued ASU No. 2016-02, *Leases* ("ASU 2016-02"). ASU 2016-02 requires a lessee to separate the lease components from the non-lease components in a contract and recognize in the statement of financial position a liability to make lease payments (the lease liability) and a right-of-use asset representing its right to use the underlying asset for the lease term. It also aligns lease accounting for lessors with the revenue recognition guidance in ASU 2014-09, as amended. ASU 2016-02 is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, and is to be applied at the beginning of the earliest period presented using a modified retrospective approach. Altimmune is currently in the process of evaluating the impact of adopting ASU 2016-02, and does not expect the adoption of ASU 2016-02 will have a material impact on its financial statements.

In January 2017, the FASB issued ASU No. 2017-04, *Simplifying the Test for Goodwill Impairment* ("ASU 2017-04"), which removes the second step of the two-step goodwill impairment test. Under ASU 2017-04, an entity will apply a one-step quantitative test and record the amount of goodwill impairment as the excess of a reporting unit's carrying amount over its fair value, not to exceed the total amount of goodwill allocated to the reporting unit. ASU 2017-04 does not amend the optional qualitative assessment of goodwill impairment. Additionally, an entity should consider income tax effects from any tax-deductible goodwill on the carrying amount of the reporting unit when measuring the goodwill impairment loss, if applicable. ASU 2017-04 is effective for annual or any interim goodwill impairment tests in fiscal years beginning after December 15, 2019; early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. Altimmune is currently in the process of evaluating the impact of adopting ASU 2017-04, and does not expect the adoption of ASU 2017-04 will have a material impact on its financial statements.

Results of Operations

Comparison of the years ended December 31, 2015 and 2016

	Year Ended December 31,			
(in thousands except percentages)	2015	2016	Increase (Decrease)	
License revenue	$ 631	$ 410	(221)	(35)%
Research grants and contracts	4,023	2,826	(1,197)	(30)%
Total revenue and grants and contracts	4,654	3,236	(1,418)	(30)%
Operating expenses				
Research and development	5,063	7,222	2,159	43%
General and administrative	6,179	7,106	927	15%
Total operating expenses	11,242	14,328	3,086	27%
Loss from operations	(6,588)	(11,092)	(4,504)	(68)%
Other expense:				
Interest expense	(55)	(38)	17	31%
Interest income	—	1	1	—
Other expense	(6)	(4)	2	33%
Other income	—	46	46	—
Total other expense, net	(61)	5	66	108%
Net loss	(6,649)	(11,087)	(4,438)	(67)%
Other comprehensive loss – foreign currency translation adjustments	(769)	(6,805)	(6,036)	(785)%
Total comprehensive loss	$ (7,418)	$(17,892)	$(19,474)	(141)%

Revenue and grants and contracts

Revenue and grants and contracts for the years ended December 31, 2015 and 2016 consisted primarily of research grants from BARDA in the United States for Altimmune's anthrax vaccine product candidate. There were no research grants for Altimmune UK or Altimmune France during the years ended December 31, 2015 and 2016.

	Year Ended December 31,			
(in thousands except percentages)	2015	2016	Increase (Decrease)	
License revenue	$ 631	$ 410	(221)	(35)%
Research grants and contracts	4,023	2,826	(1,197)	(30)%
Total revenue and grants and contracts	4,654	3,236	(1,418)	(30)%

Research and development

Research and development expenses for the years ended December 31, 2015 and 2016 consisted primarily of expenses related to product candidate development. Research and development expenses for the years ended December 31, 2015 and 2016 are summarized as follows:

	Year Ended December 31,			
(in thousands except percentages)	2015	2016	Increase (Decrease)	
Research and development	$ 5,063	$ 7,222	2,159	43%

Research and development expenses increased by $2,159,000, or 43%, during the year ended December 31, 2016 as compared to the year ended December 31, 2015. The increase was due to $1,385,000 increased spending on product candidates of Altimmune UK and a $774,000 increased spending on candidates in the United States.

General and administrative

The following is a summary of general and administrative expenses for the years ended December 31, 2015 and 2016:

	Year Ended December 31,			
(in thousands except percentages)	2015	2016	Increase (Decrease)	
General and administrative	$ 6,179	$ 7,106	$ 927	15%

General and administrative expenses increased by $927,000, or 15%, during the year ended December 31, 2016 as compared to 2015. The increase was primarily due to the reduction in legal and professional costs of $1,213,000 and a reduction of $794,000 in staff and other costs offset by an increase of stock compensation expense of $634,000 and the write off of $2.3 million of deferred offering expenses in 2016.

Interest expense

Altimmune incurred interest expense on outstanding loan balances during the years ended December 31, 2015 and 2016:

	Year Ended December 31,			
(in thousands except percentages)	2015	2016	Increase (Decrease)	
Interest expense	(55)	(38)	17	31%

Interest expense was comparable for the year ended December 31, 2016 as compared to 2015.

Other Income

	Year Ended December 31,			
(in thousands except percentages)	2015	2016	Increase (decrease)	
	(unaudited)			
Other income	—	$ 46	$ 46	—

Other income recorded during the year ended December 31, 2016 primarily represented a gain from the settlement of the SAFC Promissory Note.

Foreign currency translation adjustment

	Year Ended December 31,			
(in thousands except percentages)	2015	2016	Increase (Decrease)	
Other comprehensive loss – foreign currency translation adjustments	(769)	(6,805)	(6,036)	(785)%

Foreign currency translation adjustment primarily related to the exchange rate differences in the carrying values of IPR&D and goodwill from the acquisition of ITS during March 2015. Altimmune has elected to push down assets acquired and liabilities assumed to its UK subsidiary whose functional currency is the British pound. Foreign currency translation adjustments reflected the fluctuation in the exchange rates between the British pound and the U.S. dollar during the period from the acquisition date to December 31, 2016. The exchange rate as of March 10, 2015, the acquisition date, was £1.00 = $1.5086. The exchange rate was £1.00 = $1.4802 as of December 31, 2015 and £1.00 = $1.2339 as of December 31, 2016. The translation adjustment loss of $6.8 million during the year ended December 31, 2016 was the net effect of a decrease in the British pound as compared to the U.S. dollar during the year.

Liquidity and Capital Resources

Altimmune has incurred losses and cumulative negative cash flow from operations since its inception in 1997 and, as of December 31, 2016, Altimmune had an accumulated deficit of $31.3 million. As of December 31, 2016, it had cash of $2.9 million. Altimmune raised gross proceeds of $8.0 million from the Series B Preferred financing, and has entered into additional financing arrangements, as disclosed in more detail below.

Currently, Altimmune's funds are held in checking accounts in the United States, the United Kingdom and France. To date, it has financed its operations primarily through private placements of its preferred stock and common stock; issuance of debt securities; funding received from license agreements, research grants and contracts; and its credit facility. Altimmune anticipates that it will continue to incur losses and that such losses will increase for the foreseeable future. Altimmune expects that its research and development and general and administrative expenses will continue to increase and, as a result, Altimmune will need additional capital to fund its operations, which it may raise through a combination of equity offerings, debt financings, third-party funding, and other collaborations and strategic alliances.

Indebtedness

As of December 31, 3016, Altimmune had outstanding borrowings from a credit facility, five promissory notes which were either in default or in forbearance, and two non-interest bearing research funding arrangements, all as described in more detail below.

Credit Facility

Altimmune had a secured credit facility from ServisFirst that provided for borrowings up to $200,000 which matured in June 2015. In January 2015, Altimmune entered into a new secured credit facility with ServisFirst that provides for borrowings up to $250,000 and matures in April 2018. The borrowings are secured by a certain portion of Altimmune's accounts receivable assets related to its BARDA contract. Interest is payable monthly at ServisFirst's prime rate (4.0% at December 31, 2015 and 2016) plus 2% per annum, with a minimum interest rate of 5%. The outstanding principal balance was $49,000 at December 31, 2015 and $50,000 at December 31, 2016. There was no interest accrued at December 31, 2016. Accrued interest was $300 at December 31, 2015. Interest expense for the years ended December 31, 2015 and 2016 totaled $6,000 and $3,000, respectively.

Promissory Notes

Altimmune has an unsecured promissory note with the Economic Development Partnership of Alabama issued in June 2002 in the amount of $85,000 with an original due date of June 2004 which bore interest at 4% per annum, compounding annually. The note is in default as of December 31, 2016. The outstanding balance of $97,000 as of December 31, 2015 and 2016 has been classified as a current liability and interest currently accrues at 6% per annum, compounding annually. Accrued interest totaled $28,000 and $34,000 at December 31, 2015 and 2016, respectively. In May 2015, the lender executed a forbearance letter, extending the repayment of the note and accrued interest until the earlier of completion of an initial public offering or December 31, 2016. The promissory note will continue to accrue interest at the stated interest rate through the final repayment date. Interest expense on the note was $6,000 in 2015 and 2016. Altimmune intends to convert a portion of the principal and accrued interest outstanding under the note into newly issued convertible notes, and to and repay the balance with the proceeds from the Altimmune Financing Agreement (as defined below).

In April 2008, Altimmune issued a non-interest bearing promissory note to SAFC Carlsbad, Inc., or SAFC, in the amount of $293,000. The note was secured by Altimmune-owned equipment being held and used by SAFC for manufacturing materials for Altimmune. The note was repaid in full in December 2016. The note had $80,000 of unpaid principal as of December 31, 2015 classified as a current liability. Once past due, the note accrued interest at the default rate of 8.25% per annum on unpaid principal. Accrued interest on the note was $40,000 at December 31, 2015. Interest expense on the note totaled $6,000 in each of 2015 and 2016. In December 2016, Altimmune settled the note and accrued interest for $81,000. As of the payoff date, Altimmune recognized $45,000 as other income upon settlement of the note.

In September 2010, Altimmune issued an unsecured promissory note to an unrelated party, Dan Hammond, in the amount of $100,000 originally due in March 2011, which bears interest at 15% per annum on unpaid principal. The note is currently in default with unpaid principal of $100,000 at December 31, 2015 and 2016, and has been classified as a current liability. Accrued interest on the note was $80,000 and $95,000 at December 31, 2015 and 2016, respectively. In May 2015, the lender executed a forbearance letter, extending the repayment of the outstanding principal and interest until the earlier of completion of an initial public offering or December 31, 2016. The promissory note will continue to accrue interest at the stated interest rate through the final repayment date. Interest expense on the note totaled $15,000 in each of 2015 and 2016. Altimmune intends to convert a portion of the principal and accrued interest outstanding under the note into newly issued convertible notes, and to repay the balance with the proceeds from the Altimmune Financing Agreement.

In October 2011, Altimmune issued an unsecured, non-interest bearing promissory note to Frommer, Lawrence and Haug LLP for $279,000 due in June 2016 covering past due amounts payable for professional services provided to Altimmune. A payment plan was negotiated in monthly installments of $5,000, with $112,000 remaining outstanding at December 31, 2015 and 2016. The note is currently in default due to untimely payment of monthly installments, and Altimmune has been unable to obtain a forbearance letter from Frommer, Lawrence and Haug LLP. Altimmune intends to repay the remaining principal and accrued interest outstanding under the note with proceeds from the Altimmune Financing Agreement.

In May 2012, Altimmune issued an unsecured promissory note to Alex Choi, one of its stockholders, in the amount of $100,000, originally due in February 2014. The note bears interest at 6% per annum, compounding annually. The note and accrued interest are currently in default and have been classified as current liabilities. Accrued interest totaled $33,000 and $41,000 at December 31, 2015 and 2016, respectively. In May 2015, the lender executed a forbearance letter, providing for the deferral of repayment until the earlier of completion of an initial public offering or December 31, 2016. The note will continue to accrue interest at the stated interest rate through the final repayment date. Interest expense for each of the years ended December 31, 2015 and 2016 was $8,000. Altimmune intends to convert a portion of the principal and accrued interest outstanding under the note into newly issued convertible notes, and to and repay the balance with the proceeds from the Altimmune Financing Agreement.

Financing Agreement

In connection with the Merger Agreement, on January 28, 2017, Altimmune entered into the definitive Altimmune Financing Agreement with certain of its stockholders and directors, including Novartis Bioventures Ltd., HealthCap V LP, OFCO Club V, UFF Innovation 14 FCPI and UFF Innovation 15 FCPI, who may be deemed to beneficially own greater than 5% of Altimmune's capital stock, pursuant to which such stockholders have irrevocably committed to: (i) participate in the Altimmune Private Placement of its convertible securities in an aggregate amount of not less than $3.5 million of gross proceeds for Altimmune that is to be received by Altimmune prior to the Effective Time and (ii) participate in the Post-Closing Private Placement to raise an aggregate of not less than $5.0 million of gross proceeds for PharmAthene to be received by PharmAthene within 135 days of the closing date of the mergers. However, if the combined company completes a public offering of common stock during such 135-day period, then the purchase price of the shares acquired in the Post-Closing Private Placement will be at the same price as the shares sold in such public offering.

Research Funding Arrangements

Altimmune has two non-interest bearing research funding arrangements with Banque Publique d'Investissement (BPI France) entered into in December 2013 that provided its French subsidiary up to €750,000 in research funding in the first arrangement and up to €250,000 in the second arrangement. Altimmune is permitted to draw 50% of the funds upon the signing of the arrangements, an additional 30% contingent upon a financial audit and technical progress report, and the remaining amount to be drawn at the completion of the research and development project being funded by the arrangements. Each of the two obligations is repayable in 16 quarterly installments beginning on June 30, 2017 and continuing through March 31, 2021. As of December 31, 2015 and 2016, Altimmune has an outstanding obligation of €500,000 (approximately $545,000 at December 31, 2015 and $526,000 at December 31, 2016) due to BPI France.

Plan of operations and future funding requirements

To date, Altimmune has not generated any product sales. Altimmune does not know when, or if, it will generate revenue from product sales. Altimmune will not generate significant revenue from product sales unless and until it obtains regulatory approval and commercializes one of its current or future product candidates. Altimmune anticipates that it will continue to generate losses for the foreseeable future, and it expects the losses to increase as it continues the development of, and seek regulatory approvals for, its product candidates, and begin to commercialize any approved products. Altimmune is subject to risks in the development of its products, and Altimmune may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect its business. Upon the closing of the mergers, Altimmune expects to incur additional costs associated with operating as a public company. Altimmune anticipates that it will need substantial additional funding in connection with its continuing operations.

Altimmune believes that the net proceeds from the Altimmune Financing Agreement and its other funding arrangements, its existing cash, and, to the extent the mergers are completed, the existing cash of PharmAthene, will be sufficient to fund its projected operating requirements through at least the first quarter of 2018. Altimmune will require additional capital for the further development of its existing product candidates and may also need to raise additional funds sooner than anticipated to pursue other development activities related to additional product candidates.

Unless and until Altimmune can generate and maintain sufficient revenues from its products to achieve a positive operating cash flow, it expects to finance cash needs through public or private equity or debt offerings or non-dilutive financings such as research grants. Additional capital may not be available to Altimmune on reasonable terms, if at all. If Altimmune is unable to raise additional capital in sufficient amounts or on terms acceptable to it, it may have to significantly delay, scale back or discontinue the development or commercialization of one or more of its product candidates. If Altimmune raises additional funds through the issuance of additional debt or equity securities, it could result in increased fixed payment obligations or in dilution to its existing stockholders, respectively. Any securities that it may issue in the future may also have rights senior to those of its common stock. If Altimmune incur indebtedness, it could also become subject to covenants that would restrict its operations and potentially impair its competitiveness, such as limitations on its ability to incur additional debt, limitations on its ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact its ability to conduct its business. Any of these events could significantly harm Altimmune’s business, financial condition and prospects.

Altimmune’s forecast of the period of time through which its financial resources will be adequate to support its operations is a forward-looking statement and involves risks and uncertainties, and actual results could vary materially. Altimmune has based this estimate on assumptions that may prove to be wrong, and it could utilize its available capital resources sooner than it currently expects. Altimmune’s future funding requirements, both near and long-term, will depend on many factors, including, but not limited to:

- the initiation, progress, timing, costs and results of clinical trials for its product candidates;
- the outcome, timing and cost of regulatory approvals by the FDA and European regulatory authorities, including the potential for these agencies to require that it perform studies in addition to those that it currently has planned;
- the cost of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;
- its need to expand its research and development activities;
- its need and ability to hire additional personnel;
- its need to implement additional infrastructure and internal systems;

- its need to add personnel and financial and management information systems to support its product development and potential future commercialization efforts, and to enable it to operate as a public company; and
- the cost of establishing sales, marketing and distribution capabilities for any products for which it may receive regulatory approval.

If Altimmune cannot expand its operations or otherwise capitalize on its business opportunities because it lacks sufficient capital, its business, financial condition and results of operations could be materially adversely affected.

Contractual Obligations and Commitments

The following table summarizes Altimmune's contractual obligations at December 31, 2016:

(in thousands)	Total	Less than 1 Year	1 to 3 Years	3 to 5 Years	More Than 5 Years
Operating leases	$ 353	$ 190	$ 163	$ —	$ —
License agreements	465	120	220	125	—
Notes payable	459	459	—	—	—
Research funding obligations	526	—	99	427	—
Total	$ 1,803	$ 769	$ 482	$ 552	$ —

Operating leases

Operating leases represent future minimum lease payments under non-cancelable operating leases in effect as of December 31, 2016, including the remaining lease payments for Altimmune's headquarters in Maryland and equipment leases. The minimum lease payments above do not include real estate taxes or other leasehold-related charges.

License agreements

Altimmune's license agreements included an agreement with UABRF that was amended and restated in June 2014, and further amended in October 2015, an agreement with Crucell that was amended and restated in October 2005, and further amended in September 2015, and an agreement with Auburn University. Minimum annual license fees are $20,000 for UABRF through February 2018, $100,000 for Crucell through January 2021 and $5,000 for Auburn University through August 2025.

Notes payable

Altimmune has outstanding borrowings from a credit facility that is due in April 2018 and five promissory notes which are either in default or in forbearance. The amounts in the table above exclude interest.

Research funding obligations

Altimmune's French subsidiary has two research funding arrangements with BPI France and Region Alsace (managed by BPI France), respectively, for certain research and development costs. The amounts of the advance are non-interest bearing and are to be repaid quarterly beginning in June 2017.

The contractual obligations table above does not include any potential contingent payments due upon the achievement by Altimmune of specified clinical, regulatory or commercial events, as applicable, or royalty payments Altimmune may be required to make under license agreements where it has in-licensed certain intellectual property. See the section entitled "Business — Intellectual Property — Patent Rights and In-License Agreements" for additional information. The table also excludes potential payments Altimmune may be required to make under manufacturing and CRO agreements as the timing of when these payments will actually be made is uncertain and the payments are contingent upon the initiation and completion of future activities.

Stock-Based Compensation and Common Stock Valuation

Altimmune issues stock-based awards to employees and non-employees, generally in the form of stock options. Stock compensation expenses are recognized based on their fair values and are classified as expenses in the consolidated statements of operations and comprehensive income (loss). The fair value of stock-based awards to non-employees is re-measured as the awards vest. Altimmune recognizes the compensation costs of service-based stock compensation awards to employees on a straight-line basis over the vesting period of the awards and use an accelerated attribution model for awards to non-employees. Compensation costs for performance-based stock compensation awards are recognized as expense when it is probable that the performance condition will be achieved.

Altimmune estimates the fair value of its stock-based awards to employees and non-employees using the Black-Scholes option pricing model, which requires the input of highly subjective assumptions, including: (i) the estimated fair value of its common stock on the grant date for both employees and non-employees, and on each vesting date for non-employees; (ii) the weighted-average expected volatility of its common stock; (iii) the weighted-average expected terms of the awards, using the "simplified" method for employees, whereby the expected life equals the average of the vesting term and the original contractual term of the option, and contractual lives for non-employees; (iv) the weighted-average risk-free interest rate; and (v) expected dividends.

To date, Altimmune has been a private company. Due to the lack of a public market for the trading of its common stock and a lack of company-specific historical and implied volatility data, Altimmune has based its estimate of expected volatility on the historical volatility of a group of publicly traded companies in the pharmaceutical and biotechnology industries in a similar stage of development as it. For these analyses, Altimmune has selected companies with comparable characteristics to ours, including enterprise value, risk profiles and position within the industry, and with historical share price information sufficient to meet the expected life of the stock-based awards. Altimmune computes the historical volatility data using the daily closing prices for the selected companies' shares during the equivalent period of the calculated expected term of its stock-based awards. Altimmune will continue to apply this process until a sufficient amount of historical information regarding the volatility of its own stock price becomes available. Altimmune has estimated the expected life of its employee stock options using the "simplified" method, whereby the expected life equals the average of the vesting term and the original contractual term of the option. The risk-free interest rates for periods within the expected life of the option are based on the U.S. Treasury yield curve in effect during the period the options were granted. Altimmune does not anticipate paying dividends in the foreseeable future.

Altimmune is also required to estimate forfeitures at the time of grant and revise those estimates in subsequent periods if actual forfeitures differ from its estimates. The estimation of the number of awards that will ultimately vest requires judgment, and to the extent actual results or updated estimates differ from Altimmune's current estimates, such amounts will be recorded as a cumulative adjustment in the period in which estimates are revised.

Altimmune has computed the fair value of employee stock options at date of grant using the following weighted-average assumptions:

	Year Ended December 31,		
	2014	2015	2016
Expected volatility	80.00%	82.00%	76.50%
Expected term (in years)	6.25	6.25	6.25
Risk-free interest rate	1.97%	1.79%	2.18%
Expected dividend yield	0.00%	0.00%	0.00%

Contemporaneous with the valuation of its common stock on April 8, 2016, Altimmune awarded an aggregate of 145,500 incentive stock options to its employees.

As of December 31, 2016, Altimmune had $1.7 million of unrecognized compensation expense, which is expected to be recognized over a weighted-average remaining vesting period of 2.61 years. Altimmune expects the impact of its stock-based compensation expense for stock options granted to employees and non-employees to grow in future periods due to the potential increases in the value of its common stock and future grants to existing and new employees.

In October 2016, Altimmune authorized and granted a restricted stock award of 106,147 shares to a former executive at an aggregate purchase price of $1,067. The weighted average grant date fair value of the restricted stock award was $7.76 per share.

The restricted stock vests ratably at the end of each quarter over four years starting on December 31, 2016. Fair value of restricted shares that vested during the year ended December 31, 2016 totaled $51,480. Under certain conditions, Altimmune has the right to repurchase any unvested shares at a price of $0.01 per share. Accordingly, the aggregate repurchase price is recorded as a long-term liability to be amortized over the vesting period with the amortization classified as a component of additional paid-in capital.

Stock-based compensation expense is classified in the consolidated statements of operations and comprehensive loss as follows:

	Year Ended December 31,	
(in thousands)	2015	2016
Research and development	$ 225	$ 299
General and administrative	720	666
Total	$ 945	$ 965

The following table summarizes by grant date the number of shares of common stock subject to stock options and restricted stock granted from March 10, 2015 through the date of this proxy statement/prospectus/consent solicitation, as well as the associated per share exercise price and the per share estimated fair value of the underlying common stock:

Grant Date	Number of Underlying Common Shares Granted	Exercise Price per Common Shares at Grant Date	Fair Value per Common Share[1]	Fair Value of Award at Grant Date	Intrinsic Value per Common Shares at Grant Date
March 10, 2015[2]	171,656	1.59	10.00	9.09	8.41
March 10, 2015[3]	116,039	1.59	10.00	8.41	8.41
May 28, 2015	238,411	10.00	10.00	7.11	—
September 11, 2015	5,000	10.00	12.45	8.66	2.45
April 8, 2016	145,500	10.02	10.21	6.80	0.09
October 1, 2016[4]	106,147	—	7.77	7.76	—

(1) The fair value of Altimmune's common stock was reassessed for financial reporting purposes subsequent to the grant date based on retrospective valuations.

(2) These options were granted to replace ordinary share options as part of the ITS purchase considerations. The vesting term, exercise price and number of options were unmodified before and after the acquisition.

(3) These options were granted to replace ordinary share options held by a former ITS executive as part of the purchase considerations. The exercise price and number of options remained the same as the original ITS option grant; however, the vesting term for the replacement options was accelerated. The modification was not included in the terms of the original option agreement nor was it included in the terms of the ITS acquisition. The modification was negotiated between the combined company and the former ITS executive subsequent to the effective date of the acquisition.

(4) These shares represent a restricted stock award granted to one of Altimmune's former executives. The shares will vest over a four year period, and are subject to partial acceleration upon a change in control.

With respect to stock options granted to replace ITS ordinary shares in connection with the ITS acquisition, the amount of the vested (services provided) portion of the outstanding ITS options before the

merger, adjusted for the fair value immediately before the acquisition date, was accounted for as pre-merger ITS stock compensation expense. Total stock compensation attributable to the post-merger combined company is the difference between the greater of the fair value of outstanding ITS ordinary share options immediately before the merger or the fair value of the replacement options as of the acquisition date, less the amount attributable to pre-merger service. The amount is also adjusted for the change in fair value of the non-employee replacement options for which the vesting term was modified post-merger. Total stock compensation attributable to the post-merger combined company is being recognized over the remaining vesting period.

The vesting term of the options granted to a former ITS executive was accelerated to compensate the former ITS executive retained during the transition period. The incremental fair value of the vested modified options granted to the former ITS executive as a result of the modification was recognized on the modification date. The remaining fair value of the unvested modified options is recognized over the remaining vesting period through the end of the transition period.

Common Stock Valuation

Altimmune has historically granted stock options at exercise prices determined by its board of directors. It is a private company with no active public market for its common stock. Therefore, its board of directors estimated the per share fair value of its common stock at each grant date using internal and external factors believed to be relevant, including the board of directors' and management's best estimate of its business condition, prospects and operating performance at each grant date and appraisals prepared by third parties. In reaching its fair value determinations, Altimmune's board of directors and management considered a range of objective and subjective factors and assumptions including, among others:

- the prices of its preferred stock issued to or exchanged between investors in arm's length transactions, and the rights, preferences and privileges of its preferred stock as compared to those of its common stock, including the liquidation preferences of its preferred stock;
- its results of operations, financial position and the status of research and development efforts;
- the composition of, and changes to, its management team and board of directors;
- the lack of liquidity of its common stock as a private company;
- its stage of development and business strategy and the material risks related to its business and industry;
- the achievement of enterprise milestones, including entering into collaboration and license agreements;
- any external market conditions affecting the life sciences and biotechnology industry sectors; and
- the likelihood of achieving a liquidity event for the holders of its common stock and stock options, such as an IPO or a sale of Altimmune, given prevailing market conditions.

Historically, Altimmune's board of directors considered, among other things, an assessment of objective and subjective factors Altimmune believed were relevant as of the grant date to determine the exercise prices of the options granted. The factors considered included, when available, the prices paid in recent transactions involving Altimmune's equity securities, as well as its stage of development, its operating and financial performance and current business conditions.

In March 2015, based on Altimmune's review of overall market conditions and the improving market for biopharmaceutical IPOs, its board of directors determined that a significant shift was occurring with respect to the valuation that it could achieve in an IPO and directed it to begin preparation of a confidential draft registration statement for an IPO. Altimmune selected underwriters and held an organizational meeting in April 2015. Altimmune believes these events increased the probability of an early IPO scenario and therefore, in connection with the preparation of its consolidated financial statements, it reassessed the initial estimates of fair value of its common stock used for stock compensation measurement. To appropriately reflect these factors, Altimmune determined that retrospective valuations of the fair value of its common stock were appropriate due to the acceleration of the time frame to a potential liquidity event. Retrospective valuations

were accordingly obtained as of March 10, 2015, and September 30, 2015. In addition, contemporaneous valuations were obtained as of November 6, 2015, December 31, 2015, January 12, 2016, April 8, 2016, August 19, 2016 and December 31, 2016. These valuation dates represented the dates of recent equity financings, an M&A transaction or the period-end dates. Amounts recorded for stock compensation in the consolidated financial statements for 2015 and 2016, reflect the results of these valuations. In situations where grants occurred between the dates as of which such appraisals were performed, the board of directors and management considered additional factors such as, when available, the prices paid in recent transactions involving Altimmune's equity securities, as well as its stage of development, its operating and financial performance and current business conditions.

The valuations discussed below were prepared in accordance with the guidance outlined in the American Institute of Certified Public Accountants Practice Aid, *Valuation of Privately-Held Company Equity Securities Issued as Compensation*, also known as the "Practice Aid," which prescribes several valuation approaches for setting the value of an enterprise, such as the cost, market and income approaches, and various methodologies for allocating the value of an enterprise to its common stock.

The methods Altimmune considered consisted of the following:

- *Guideline Public Company and Transaction Analysis Method.* The guideline public company method is a market approach that utilizes published data regarding IPO and M&A transactions from comparable public life sciences and biotechnology companies that occurred in recent years, adjusted for a discount for lack of marketability ("DLOM"), to estimate the enterprise value of Altimmune. This method was considered but not utilized in any of the valuations discussed below.
- *Probability-Weighted Expected Return Method*, or PWERM. The PWERM is an income approach that utilizes scenario-based analysis that estimates the value per share based on the probability-weighted present value of expected future investment returns, considering the potential occurrence of an IPO, trade sale/merger or liquidation, as well as the economic and control rights of each share class.

Altimmune used the PWERM approach to derive the probability-weighted present value of expected future investment returns, considering possible outcomes available to it, as well as the economic and control rights of each share class. Altimmune considers this model to be appropriate as it believes the range of possible outcomes of a liquidity event are reasonably estimable and within a relatively close period of time. These valuations each considered three future exit or liquidity event scenarios, including (i) a sale/merger transaction of Altimmune in both the short or long term (the "sale scenarios"), (ii) an IPO (the "IPO scenario"), or (iii) a sale of Altimmune's intellectual properties at or below its preferred stock liquidation preference (the "liquidation scenario"). In each scenario, the projected equity values were based on a review of both guideline IPO and M&A transactions involving life science and biotechnology companies that Altimmune considered broadly comparable to its company. The timing of each scenario was, in part, based on the plans of Altimmune's board of directors and management and generally coincided with the expected availability of clinical trial results. In the IPO scenario, Altimmune assumed all outstanding shares of its convertible preferred stock would convert into common stock. In the sale scenarios, the projected equity value was allocated to the various share classes, as of the liquidity date, based on the respective rights and preferences outlined in its certificate of incorporation.

In order to estimate the investment return for the three scenarios, Altimmune considered the economic rights of each share class through a direct waterfall analysis. Altimmune also estimated the expected time to the liquidity event based on its board of directors' assessment of its prospects, its investors' motivations and market conditions. After the projected equity value in each scenario was allocated to the various share classes, it calculated the present value of each share class using an appropriate risk-adjusted discount rate based on consideration of the venture capital rates of return detailed in the Practice Aid and an analysis of other quantitative and qualitative factors considered pertinent to estimating the discount rate. Next, Altimmune applied a DLOM to its common shares because it is a closely held, non-public company with no liquid market for its shares. The DLOM was based on quantitative models (a protective put option calculation), as well as empirical studies of restricted stock issued by publicly traded companies and private placements by pre-IPO companies. Altimmune also considered the rights and privileges of its convertible preferred stock relative to its common stock, including anti-dilution protection, cumulative dividend rights, and protective provisions in its certificate of incorporation. Finally, Altimmune assigned a probability weighting to each scenario based on its estimate of the likelihood of occurrence, as of each valuation date. In each case, the future projected enterprise values were based on a review of both guideline IPO and M&A transactions involving life science and biotechnology companies that Altimmune considered broadly comparable to its company.

Effect of Recapitalization

In connection with the ITS acquisition that was completed on March 10, 2015, Altimmune recapitalized its equity securities including a reverse stock split of all outstanding common stock, preferred stock, common stock warrants and common stock options at a 6.27-to-1 ratio. All historical shares and per share information in Altimmune's financial statements and notes included elsewhere in this proxy statement/prospectus/consent solicitation have been retroactively adjusted to reflect the impact of the reverse stock split. For the common stock valuations summarized below, Altimmune has presented the valuation assumptions and results as they were determined by the third-party appraiser as well as the effect of the reverse stock split on the resulting estimated common stock fair value.

Valuation Assumptions

Key valuation assumptions used in the PWERM approach at each relevant date are summarized below:

Probability of scenarios, discount rates and estimated time to liquidity

The following table summarizes the valuation assumptions of probability weighting assigned to each of the potential liquidity scenarios, the discount rates applied to adjust guideline company valuation and the estimated time or term to a liquidity event, as applied at each of the valuation dates since March 10, 2015.

	Sale Scenario-Short Term	Sale Scenario-Long Term	IPO Scenario	Liquidation Scenario
March 10, 2015 valuation				
Probability of scenario	35%	N/A	65%	N/A
Discount rate – common stock	25%	N/A	25%	N/A
Estimated term to liquidity	0.52 years	N/A	0.52 years	N/A
DLOM	10%	N/A	5%	—
September 30, 2015 valuation				
Probability of scenario	20%	10%	70%	N/A
Discount rate – common stock	25%	25%	25%	N/A
Estimated term to liquidity	0.41 years	1.51 years	0.34 years	N/A
DLOM	10%	15%	5%	—
November 6, 2015 valuation				
Probability of scenario	20%	10%	70%	N/A
Discount rate – common stock	25%	25%	25%	N/A
Estimated term to liquidity	0.48 years	1.40 years	0.28 years	N/A
DLOM	10%	15%	5%	—

	Sale Scenario-Short Term	Sale Scenario-Long Term	IPO Scenario	Liquidation Scenario
December 31, 2015 valuation				
Probability of scenario	15%	10%	75%	N/A
Discount rate – common stock	25%	25%	25%	N/A
Estimated term to liquidity	0.33 years	1.25 years	0.13 years	N/A
DLOM	10%	15%	5%	—
January 12, 2016 valuation				
Probability of scenario	15%	10%	75%	N/A
Discount rate – common stock	25%	25%	25%	N/A
Estimated term to liquidity	0.30 years	1.22 years	0.09 years	N/A
DLOM	10%	15%	5%	—
April 8, 2016 valuation				
Probability of scenario	15%	10%	75%	N/A
Discount rate – common stock	25%	25%	25%	N/A
Estimated term to liquidity	0.56 years	1.73 years	0.31 years	N/A
DLOM	10%	15%	5%	—
August 19, 2016 valuation				
Probability of scenario	15%	20%	65%	N/A
Discount rate – common stock	25%	25%	25%	N/A
Estimated term to liquidity	0.61 years	1.61 years	0.12 years	N/A
DLOM	10%	15%	5%	—
December 31, 2016 valuation				
Probability of scenario	90%	10%	0%	N/A
Discount rate – common stock	25%	25%	N/A	N/A
Estimated term to liquidity	0.29 years	0.75 years	N/A	N/A
DLOM	15%	20%	—	—

At the March 10, 2015 valuation date, Altimmune had completed the acquisition of ITS and a common stock equity financing. In addition, Altimmune began planning for an IPO.

As of the September 30, 2015 valuation date, Altimmune had made significant progress toward its plan for an IPO and it also began negotiating the terms for a Series B Preferred financing with its investors. In addition, the proceeds from the equity financing that occurred in March 2015 allowed Altimmune to make significant progress in the research and development of its product candidates. Based on these developments, a liquidation of the company at a price below the preferred stock liquidation preference became remote. As a result, the values of Altimmune's common stock were estimated based on the weighted average of the long-term and short-term sale and IPO scenarios adjusted by an estimated DLOM to arrive at the fair value of its common stock.

On November 6, 2015, January 12, 2016, April 8, 2016 and August 19, 2016 Altimmune issued and sold an aggregate of 800,000 shares of its Series B Convertible Preferred Stock in a private offering under the stock purchase agreement, and warrants to purchase an aggregate of 718,185 shares of its common stock were issued at an exercise price of $0.01 per share, for aggregate proceeds of $8.0 million. Based on the activities and development of Altimmune's business and operations combined with the effect of market conditions, it increased the weighting being placed on the IPO scenario and reduced the short-term sales scenario and the DLOM adjustments accordingly for purposes of the December 31, 2015, January 12, 2016, April 8, 2016 and August 19, 2016 valuations. Altimmune also revised the estimated terms to liquidity to reflect its current plans. Because Altimmune's business and operations remained consistent with these plans, the issuance of Series B Convertible Preferred Stock resulted in a dilutive effect on the fair value of common stock on the November 6, 2015, January 12, 2016, April 8, 2016 and August 19, 2016 valuation dates.

As of December 31, 2016, PharmAthene and Altimmune had begun the process of negotiating the terms of the Merger. An increase in the probability of a short-term sale scenario combined with the abandoning of the IPO plan resulted in a decrease in the fair value of Altimmune's common stock.

Common stock fair value

Based on the key assumptions summarized above that were applied in the PWERM valuation model, the resulting enterprise value and equity value for Altimmune as of each of the valuation dates were allocated to each of Altimmune's equity securities including common stock. The allocated common stock fair value under each scenario is then weighted based on the estimated probability for each scenario and applied a DLOM to arrive at the final estimated fair value. The resulting final estimated fair value of Altimmune's common stock at each of the valuation dates is summarized as follows:

Valuation Dates	Common Stock Fair Value Per Valuation Report
March 10, 2015	$ 10.00
September 30, 2015	$ 12.45
November 6, 2015	$ 10.10
December 31, 2015	$ 10.47
January 12, 2016	$ 10.32
April 8, 2016	$ 10.02
August 19, 2016	$ 7.77
December 31, 2016	$ 7.62

Awards between valuation dates

Altimmune's board of directors considered the fair value of its common stock retrospectively as of September 11, 2015 which represent option grant dates for which valuations were not obtained as reasonably current valuations were available and considered. The fair value of Altimmune's common stock as of September 11, 2015 was based on the common stock fair value as of September 30, 2015 of $12.45 per share because all the factors being considered for the September 30, 2015 valuation also existed as of September 11, 2015.

Altimmune's board of directors considered the fair value of its common stock contemporaneously as of March 10, 2015 and May 28, 2015.

A March 10, 2015 valuation was obtained in connection with the Acquisition and the equity financing involving Altimmune's common stock. The March 10, 2015 valuation took into consideration the effect of: (i) the conversion of all outstanding preferred stock into common stock; (ii) the conversion of all preferred stock warrants into common stock warrants; (iii) a reverse stock split of all outstanding and converted common stock, common stock warrants, and common stock options at a 6.27-to-1 ratio; and (iv) the issuance of a common stock dividend, in the amount of 0.002411 shares per outstanding share of common stock. The fair value of common stock options awarded to replace outstanding ITS ordinary share options as part of the Acquisition consideration were estimated based on the March 10, 2015 common stock fair value of $10.00 per share.

As of May 28, 2015, while Altimmune had begun preparing for the filing of a registration statement on Form S-1 which may have had a positive effect on its common stock fair value, it also incurred significant costs and expenses as it continued to develop its products and conduct clinical trials. The positive effect on Altimmune's common stock fair value from a potential IPO and progress made in product development was offset by its incurring significant cash spending to finance these operating and clinical activities as well as preparing for its IPO. Absent other significant transactions, activities, or additional financing, Altimmune's board of directors and management have determined that the March 10, 2015 valuation was a reasonable estimate of the common stock fair value applicable to the May 28, 2015 option award at $10.00 per share.

On October 1, 2016, Altimmune granted a former executive shares of its restricted stock. The restricted stock award was valued based on the August 19, 2016 valuation report. Altimmune and PharmAthene had entered into a confidentiality agreement on August 16, 2016 which was the primary factor affecting the valuation result dated August 19, 2016. At the time of the restricted stock award, the parties continued

actively negotiating the terms of the letter of intent. Given the fact that the parties were still at an early stage of the merger discussion, the board of directors and management of Altimmune have determined that the August 19, 2016 valuation was a reasonable estimate of the common stock fair value applicable to the October 1, 2016 restricted stock award.

Off-Balance Sheet Arrangements

As of December 31, 2015 and 2016, Altimmune did not have any off-balance sheet arrangements.

NOL Carryforwards

At December 31, 2016, Altimmune had federal NOLs totaling approximately $18.0 million that will begin to expire in 2020, state NOLs of approximately $11.9 million that will begin to expire in 2031, and UK and France NOLs totaling approximately $21.6 million and $638,000, respectively, which do not expire as long as Altimmune's UK and France subsidiaries continue to engage in the same trade or business. As of December 31, 2016, Altimmune had a full valuation allowance against its net deferred tax assets, which consisted principally of NOLs.

Under Section 382 of the Internal Revenue Code of 1986, as amended, substantial changes in Altimmune's ownership may limit the amount of NOLs that can be utilized annually in the future to offset its U.S. federal taxable income. Specifically, this limitation may arise in the event of a cumulative change in Altimmune's ownership of more than 50% within any three-year period. The amount of the annual limitation is determined based on Altimmune's value immediately before the ownership change. Subsequent ownership changes may further affect the limitation in future years. In addition, Altimmune may experience ownership changes after the completion of the mergers as a result of subsequent shifts in the ownership of PharmAthene. As a result, Altimmune is unable to estimate the effect of these limitations, if any, on its ability to utilize NOLs and other tax attributes in the future.

Quantitative and Qualitative Disclosures about Market Risks

The market risk inherent in Altimmune's financial instruments and in its financial position represents the potential loss arising from adverse changes in interest rates. As of December 31, 2016, Altimmune had cash of $5.1 million on deposit in its operating and checking accounts. Altimmune did not have cash equivalents or any investments as of December 31, 2016. Altimmune's primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates. Because Altimmune's cash is not restricted and it does not have cash equivalents or investments, an immediate 100 basis point change in interest rates would not have a material effect on its financial position or the results of its operations. Altimmune is also subject to interest rate risk from its outstanding notes and borrowings under its credit facility. Altimmune's outstanding notes bear fixed interest rates. Borrowings under Altimmune's credit facility bear interest at an annual rate equal to the bank's prime rate (4% at December 31, 2016) plus 2%.

In addition, Altimmune is subject to currency risk for cash held in British pounds and Euros in its UK and French subsidiaries. Fluctuations in the exchange rates for the British pound since January 2016 have been about 22.4% comparing the high and low during the period. Transactions of Altimmune's UK subsidiary predominantly settled in British pounds and transactions of its French subsidiary settled predominantly in Euros; therefore, Altimmune believes that it has minimal exposure to foreign currency exchange risks. Altimmune does not hedge against foreign currency risks.

Altimmune does not believe that inflation and changing prices had a significant impact on its results of operations for any periods presented herein.

COMPARISON OF RIGHTS OF STOCKHOLDERS

Both PharmAthene and Altimmune are Delaware corporations subject to the DGCL. The rights of PharmAthene stockholders are governed by the DGCL, the PharmAthene Articles of Incorporation (the PharmAthene Articles"), and PharmAthene Bylaws (the "PharmAthene Bylaws"). The rights of Altimmune stockholders are governed by the DGCL, Altimmune Articles of Incorporation (the "Altimmune Articles"), and Altimmune Bylaws (the "Altimmune Bylaws"). If the mergers are completed, Altimmune stockholders will become stockholders of PharmAthene, and their rights will be governed by the DGCL, the PharmAthene Articles and the PharmAthene Bylaws. The rights of PharmAthene stockholders contained in the PharmAthene Articles and PharmAthene Bylaws differ from the rights of Altimmune stockholders under the Altimmune Articles and Altimmune Bylaws.

The following is a summary of the material differences, as of the date of this document, between the rights of PharmAthene stockholders and Altimmune stockholders under the PharmAthene Articles and PharmAthene Bylaws, the Altimmune Articles and Altimmune Bylaws, and, to the extent applicable, the DGCL. See the section entitled "— Summary of Material Differences of the Rights of Altimmune and PharmAthene Stockholders" below.

While PharmAthene and Altimmune believe that this summary covers the material differences, this summary may not contain all of the information that is important to you. This summary is not intended to be a complete discussion of the respective rights of PharmAthene stockholders and Altimmune stockholders and is qualified in its entirety by reference to the various documents of PharmAthene and Altimmune that are referred to in this summary. You should carefully read this entire proxy statement/prospectus/consent solicitation and the other documents that PharmAthene and Altimmune refer to in this proxy statement/prospectus/consent solicitation for a more complete understanding of the differences between being a stockholder of PharmAthene and being a stockholder of Altimmune.

Summary of Material Differences of the Rights of Altimmune and PharmAthene Stockholders.

	Altimmune	PharmAthene
Authorized Capital	The Altimmune Articles currently authorize the issuance of 19,557,111 shares of capital stock, consisting of Class A Common Stock, Class B Common Stock, and preferred stock. 15,610,215 shares of Class A Common Stock, $0.01 par value per share, 3,146,896 shares of Class B Common Stock, $0.01 par value per share, and 800,000 shares of Series B Convertible Preferred Stock ("Series B Preferred Stock"), $0.01 par value per share, are currently authorized.	The PharmAthene Articles currently authorize the issuance of 101,000,000 shares of capital stock, consisting of two classes, common stock and preferred stock. 100,000,000 shares of common stock, $0.0001 par value per share, and 1,000,000 shares of preferred stock, $0.0001 par value per share, are currently authorized. In connection with the Merger Agreement, PharmAthene's Board of Directors is asking stockholders to approve an amendment to the PharmAthene Articles to effect the Reverse Split of all issued and outstanding PharmAthene common stock at a Reverse Ratio of not less than 1-for-10 and not more than 1-for-75, with the exact Reverse Ratio to be finally determined and mutually agreed to by the PharmAthene and Altimmune Boards of Directors. Because the proposed amendment does not provide for a change in the number of shares of PharmAthene common stock or preferred stock authorized for issuance (which will remain at 100,000,000 and 1,000,000, respectively), if stockholders approve the amendment and the Reverse Split is effected, the number of shares of PharmAthene common stock available for issuance would increase relative to the number of shares of PharmAthene common stock issued and outstanding.

	Altimmune	PharmAthene
Common and Preferred Stock	The Altimmune Articles authorize the issuance of two classes of common stock, Class A and Class B. Each holder of outstanding shares of Class A Common Stock is entitled to one vote for each share of Class A Common Stock held. Except as specifically provided in the Altimmune Articles and as required by law, the holders of Altimmune Class B Common Stock are not entitled to vote at any Altimmune meeting of stockholders or provide their written consent with respect to any matter submitted to the consent of the Altimmune stockholders. The Altimmune Articles provide that the Altimmune Board of Directors may issue shares of preferred stock and, in connection with such issuance, fix such designations, preferences and relative, participating, optional or other special rights as shall be stated and expressed in the resolution or resolutions adopted by the PharmAthene Board of Directors providing for such issuance and as may be permitted by the DGCL. The Altimmune Articles currently authorize the issuance of up to 800,000 shares of Series B Preferred Stock, of which 800,000 are currently outstanding, with such designations and rights as fixed in the Altimmune Articles. Except as otherwise provided in the Altimmune Articles, the Series B Preferred Stock votes together with the Class A Common Stock as a single class, and each share of Series B Preferred Stock entitles the holder to such number of votes per share on each such action as shall equal the number of shares of Class A Common Stock into which each share of Series B Preferred Stock is then convertible.	The PharmAthene Articles authorize the issuance of one class of common stock. The PharmAthene Articles provide that the PharmAthene Board of Directors may issue shares of preferred stock and, in connection with such issuance, fix such designations, preferences and relative, participating, option or other special rights as shall be stated and expressed in the resolution or resolutions adopted by the PharmAthene Board of Directors providing for such issuance and as may be permitted by the DGCL. As of the date of this proxy statement/prospectus/consent solicitation, there were no shares of PharmAthene preferred stock issued and outstanding. If, however, PharmAthene were to issue preferred stock, the rights of holders of PharmAthene common stock may be materially limited or qualified by the rights of PharmAthene preferred stock holders.

	Altimmune	PharmAthene
Dividends	Under the DGCL, except as set forth in a corporation's certificate of incorporation, a corporation is generally permitted to declare and pay dividends out of surplus (defined as the excess, if any, of net assets over capital) or, if no surplus exists, out of net profits for the fiscal year in which the dividend is declared and/or the preceding fiscal year. However, the directors of a corporation may not pay any dividends out of net profits if the capital of the corporation has been reduced to an amount less than the aggregate amount of capital represented by the issued and outstanding stock of all classes having a preference upon the distribution of assets. The Altimmune Board of Directors has never declared a cash dividend. The Altimmune Articles provide that dividends at the rate per annum of $0.60 per share shall accrue to the holders of the outstanding Series B Preferred Stock, provided that, except as otherwise provided in the Altimmune Articles, such accruing dividends are payable only when, as, and if declared by the Altimmune Board of Directors, or upon the liquidation, dissolution or winding up of the corporation.	Under the DGCL, except as set forth in a corporation's certificate of incorporation, a corporation is generally permitted to declare and pay dividends out of surplus (defined as the excess, if any, of net assets over capital) or, if no surplus exists, out of net profits for the fiscal year in which the dividend is declared and/or the preceding fiscal year. However, the directors of a corporation may not pay any dividends out of net profits if the capital of the corporation has been reduced to an amount less than the aggregate amount of capital represented by the issued and outstanding stock of all classes having a preference upon the distribution of assets. The PharmAthene Board of Directors has declared a special one-time cash dividend of $2.91 per share of PharmAthene common stock paid on February 3, 2017.
Rights on Liquidation	Upon any liquidation, dissolution or winding up of Altimmune, the holders of the shares of Series B Preferred Stock are entitled, before any distribution or payment is made upon any stock ranking on liquidation junior to the Series B Preferred Stock, including the Altimmune Class A Common Stock and the Altimmune Class B Common Stock, to be paid an amount equal to the Series B original issuance price of $10.00 per share, plus an amount equal to all the unpaid dividends that have accrued to the Series B Preferred Stock as of the time of the liquidation, dissolution or unwinding of the corporation.	Under the DGCL, in case of a dissolution of PharmAthene, the holders of common stock are entitled to receive the assets of PharmAthene available for distribution subject to any preferential liquidation right on any then outstanding preferred stock.

	Altimmune	PharmAthene
Conversion Rights	Subject to the terms and conditions of the Altimmune Articles, the holder of any share or shares of Series B Preferred Stock shall have the right, at its option at any time, to convert any such shares of Series B Preferred Stock into such number of fully paid and nonassessable shares of Class A Common Stock as determined pursuant to the terms of the Altimmune Articles. Holders of shares of Altimmune common stock do not have any conversion rights.	Holders of shares of PharmAthene common stock do not have any conversion rights.
Stockholder Approval Rights	The Altimmune Articles provide that the Series B Preferred Stock votes together with the Class A Common Stock as a single class, except as otherwise provided by law or on matters directly relating to amendments to the Altimmune Articles affecting the rights of the Series B Preferred Stock, voting on an as-converted to common stock basis. Pursuant to the Altimmune Bylaws, directors are elected by a plurality of the votes of shares present in person or represented by proxy at meetings of the Altimmune stockholders. With respect to certain matters, including the number of authorized shares of capital stock, the number of directors of the corporation, and certain protective provisions as more fully described in the Altimmune Articles, the approval by the holders of at least 65% of the of the outstanding Class A Common Stock and Series B Preferred Stock, voting on an as-converted to common stock basis, is required. Except as specified in the Altimmune Articles or as required by Delaware law, the approval by a majority of the Class A Common Stock and Series B Preferred Stock, voting on an as-converted to common stock basis, is required for all other matters.	The PharmAthene Articles provide that, except as otherwise required by law, certain charter provisions, or as otherwise provided in any preferred stock designation, the holders of PharmAthene's common stock have exclusive possession of all voting power and each share of common stock has one vote. Pursuant to the PharmAthene Bylaws, all elections shall be determined by plurality votes. Any other matter shall be determined by the vote of a majority of the shares which are voted with regard to it, except as otherwise provided by law, the PharmAthene Articles or the PharmAthene Bylaws. With respect to the number of authorized shares of PharmAthene preferred stock, the PharmAthene Articles state that the number of authorized shares of preferred stock may be increased or decreased (but not below the number of shares of preferred stock then outstanding) by the affirmative vote of the holders of a majority in the voting power or all of the then outstanding shares of PharmAthene's capital stock entitled to vote generally in the election of directors, voting together as a single class, without a separate vote of the holders of the preferred stock, or any series of preferred stock, unless a vote of any such holders is required under any preferred stock designation.

Altimmune	PharmAthene
	The PharmAthene Articles further provide that any contract or act that is approved or ratified by the vote of the holders of a majority of PharmAthene's stock which is represented in person or by proxy at the meeting at which the approval or ratification is considered, and entitled to vote thereat (provided that a lawful quorum of stockholders is represented in person or by proxy) is as valid and binding upon PharmAthene and its stockholders as though it had been approved or ratified by every PharmAthene stockholder, whether or not the contract or act would otherwise be open to legal attack because of directors' interests, or for any other reason. Finally, the PharmAthene Articles provide that, if a compromise or arrangement is proposed between PharmAthene and its creditors or any class of them and/or between PharmAthene and its stockholders or any class of them, and if a majority in number representing three fourths (¾) in value of the creditors or class of creditors, and/or of the stockholders or class of stockholders of PharmAthene, as the case may be, agree to any compromise or arrangement and to any reorganization of PharmAthene as a consequence of the compromise or arrangement, the compromise or arrangement and the reorganization, if sanctioned by the court to which application was made, is binding on all the creditors or class of creditors and/or stockholders or class of stockholders of PharmAthene, as the case may be, and also on PharmAthene.

	Altimmune	PharmAthene
Number of Directors and Election	The Altimmune Articles provide that the authorized number of directors of the corporation shall be determined by the holders of at least 65% of the then outstanding shares of Class A Common Stock and Series B Preferred Stock, given in writing or by vote at a meeting, consenting or voting (as the case may be) as a group on an as-converted to common stock basis, but shall be no less than three and no more than fifteen directors.	The PharmAthene Bylaws provide that the number of directors which will constitute the entire Board of Directors will be such number, not less than one nor more than nine, as shall be determined by the Board of Directors from time to time, provided that in the event the outstanding shares of stock are owned by fewer than three stockholders, the number of directors may be a number not less than the number of stockholders.
	Except in the case of a vacancy, the directors shall be elected at the annual meeting of stockholders, and, except as otherwise provided by law, the Altimmune Articles, or the Altimmune Bylaws, each director elected will serve until the next succeeding annual meeting of stockholders and until his successor is elected and qualified. The Alitmmune Bylaws provide that newly created directorships resulting from an increase in the number of directors occurring in the Altimmune Board of Directors will be filled by stockholders. A director elected to fill a vacancy, including a vacancy created by a newly created directorship, shall serve until the next succeeding annual meeting of stockholders and until his successor is elected and qualified.	Except in the case of a vacancy, the directors shall be elected at the annual meeting of stockholders, and, except as otherwise provided by law, the PharmAthene Articles, or the PharmAthene Bylaws, each director elected will serve until the next succeeding annual meeting of stockholders and until his successor is elected and qualified. The PharmAthene Bylaws provide that newly created directorships resulting from an increase in the number of directors and vacancies occurring in the PharmAthene Board of Directors may be filled by vote of a majority of the directors then in office, even if less than a quorum exists. A director elected to fill a vacancy, including a vacancy created by a newly created directorship, shall serve until the next succeeding annual meeting of stockholders and until his successor is elected and qualified.

	Altimmune	PharmAthene
Advance Notice Requirements for Stockholder Proposals (Other Than Director Nominations)	The Altimmune Articles and the Altimmune Bylaws do not impose any notice requirements on the submission of stockholder proposals.	***Annual Meeting*** The PharmAthene Bylaws provide that at any annual meeting of stockholders, only such business shall be conducted as shall have been properly brought before the meeting. To be properly brought before an annual meeting, business must be: (i) specified in the notice of meeting (or any supplement thereto) given by or at the direction of the Board of Directors, (ii) otherwise properly brought before the meeting by or at the direction of the Board of Directors or (iii) otherwise properly brought before the meeting by a stockholder. Except for proposals properly made in accordance with Rule 14a-8 under the Exchange Act and included in the notice of meeting given by or at the direction of the Board of Directors, the foregoing clause (iii) is the exclusive means for a PharmAthene stockholder to propose business to be brought before an annual meeting.

Altimmune	PharmAthene
	In order for business to be properly brought before an annual meeting by a PharmAthene stockholder, the stockholder must have given timely notice thereof in writing to PharmAthene's Secretary and such proposal must be a proper matter for stockholder action under Delaware law. To be timely, a stockholder's notice must be delivered to PharmAthene's Secretary at the principal executive offices of PharmAthene not less than ninety (90) days nor more than one hundred twenty (120) days prior to the one-year anniversary of the preceding year's annual meeting; provided, however, that in the event no annual meeting was held in the previous year or the date of the annual meeting has been changed by more than thirty (30) days, notice by the stockholder to be timely must be so received not later than the close of business on the later of ninety (90) days in advance of such annual meeting or ten (10) days following the date on which public disclosure of the date of the meeting is first made by PharmAthene. The PharmAthene Bylaws provide that in no event shall any adjournment of an annual meeting or special meeting or the announcement thereof commence a new time period for the giving of a stockholder's notice as described in this paragraph.

Altimmune	PharmAthene
	Special Meetings
	The PharmAthene Bylaws provide that special meetings of stockholders may be called at any time for any purpose or purposes by majority vote of the PharmAthene Board of Directors or by the Chief Executive Officer, and may be cancelled by the Board of Directors at any time prior to the scheduled commencement of the special meeting. Each special meeting called by the Board of Directors or by the Chief Executive Officer shall be held at such date, time and place either within or without the State of Delaware as may be stated in the notice of the meeting.
	The PharmAthene Bylaws further provide that special meetings of stockholders (each, a "Stockholder Requested Special Meeting") shall be called by PharmAthene's Secretary upon the written request of a stockholder, or a group of stockholders formed for the purpose of making such request, that beneficially own 20% or more of the outstanding common stock (the "Threshold Percentage") as of the date of submission of the written request.
	If the written request is properly submitted in compliance with the timing, form and information requirements of the PharmAthene Bylaws, a Stockholder Requested Special Meeting shall be held at such date, time and place within or without the state of Delaware as may be fixed by the PharmAthene Board of Directors; provided, however, that the date of any Stockholder Requested Special Meeting shall be not more than sixty (60) days after the record date for such meeting, which shall be fixed in accordance with the PharmAthene Bylaws. Business transacted at any Stockholder Requested Special Meeting shall be limited to the purpose(s) stated in the request; provided, however, that nothing in the PharmAthene Bylaws shall prohibit PharmAthene from submitting matters to a vote of the stockholders at any Stockholder Requested Special Meeting.

Altimmune	PharmAthene
	Notwithstanding the foregoing, the PharmAthene Bylaws provide that the Secretary shall not be required to call a Stockholder Requested Special Meeting if (A) the request for such special meeting does not comply with the requirements of the PharmAthene Bylaws with respect to Stockholder Requested Special Meetings, (B) the Board of Directors or the Chief Executive Officer has called or calls an annual or special meeting of stockholders to be held not later than ninety (90) days after the date on which a valid request has been delivered to the Secretary (the "Delivery Date"), (C) the request is received by the Secretary during the period commencing ninety (90) days prior to the first anniversary of the date of the immediately preceding annual meeting and ending on the date of the next annual meeting, (D) the request contains an identical or substantially similar item (a "Similar Item") to an item that was presented at any meeting of stockholders held within one hundred and twenty (120) days prior to the Delivery Date (and, for purposes of this clause (D) the election of directors shall be deemed a "Similar Item" with respect to all items of business involving the election or removal of directors), (E) the request relates to an item of business that is not a proper subject for action by the stockholders of PharmAthene under applicable law or (F) the request was made in a manner that involved a violation of Regulation 14A under the Exchange Act or other applicable law.

	Altimmune	PharmAthene
Advance Notice Requirements for Director Nominations	Altimmune Bylaws do not impose any notice requirements on the submission of stockholder nominations.	Nominations of any person for election to the PharmAthene Board of Directors at an annual meeting or at a special meeting (but only if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting) may be made at such meeting only (i) by or at the direction of the Board of Directors or (ii) by a stockholder who has complied with the provisions described in this section "*— Advance Notice Requirements for Director Nominations*" as to such nomination. The foregoing clause (ii) is the exclusive means for a stockholder to make any nomination of a person or persons for election to the PharmAthene Board of Directors at an annual meeting or special meeting. With respect to director nominations at an annual meeting, the stockholder must provide timely written notice, in compliance with certain timing, form and informational requirements, including those described above in "*Advance Notice Requirements for Stockholder Proposals (Other Than Director Nominations) — Annual Meetings*", to the Secretary for a stockholder to make any nomination of a person or persons for election to the Board of Directors at an annual meeting. If the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting, then for a stockholder to make any nomination of a person or persons for election to the PharmAthene Board of Directors at a special meeting, the stockholder must provide notice thereof in writing and in proper form to the Secretary, not earlier than the one hundred twentieth (120^{th}) day prior to such special meeting and not later than the ninetieth (90^{th}) day prior to such special meeting or, if later, the tenth (10^{th}) day following the day on which public disclosure of the date of such special meeting was first made by PharmAthene.

	Altimmune	PharmAthene
		The PharmAthene Bylaws further provide that to be eligible to be a nominee for election as a director, the proposed nominee also must deliver to PharmAthene's Secretary a written questionnaire with respect to the background and qualification of such proposed nominee (which questionnaire shall be provided by the Secretary upon written request) and a written representation and agreement (in form provided by the Secretary upon written request) regarding the existence of any voting arrangements. Pursuant to the PharmAthene Bylaws, a stockholder providing notice of any nomination proposed to be made at a meeting shall further update and supplement such notice in accordance with certain timing requirements, if necessary, so that the information provided or required to be provided in such notice pursuant to the requirements described above shall be true and correct as of the record date for the meeting.
Amendment of Charter and Bylaws	The vote or written consent of the holders of at least 65% of the outstanding shares of Altimmune Class A Common Stock and Altimmune Series B Preferred Stock, voting together as single class on an as-converted to common stock basis, is necessary for effecting or validating any amendment, alteration, or repeal of any provision of the Altimmune Articles or the Altimmune Bylaws.	Under the DGCL, the affirmative vote of the holders of a majority of the PharmAthene capital stock outstanding and entitled to vote is required to approve an amendment to the PharmAthene Articles. Under the PharmAthene Articles and Bylaws, the Bylaws may be altered, amended or repealed, and new Bylaws may be adopted, altered, amended or repealed either (a) at any regular or special meeting of stockholders by the affirmative vote of holders of a majority of the outstanding capital stock entitled to vote thereon, or (b) by the affirmative vote of a majority of the PharmAthene Board of Directors at any regular or special meeting of the PharmAthene Board of Directors.

	Altimmune	PharmAthene
Rights of Dissenting Stockholders	Altimmune stockholders are entitled to appraisal rights under Delaware law in connection with the mergers described herein. See the section entitled "The Merger — Appraisal Rights" of this proxy statement/prospectus/consent solicitation.	The DGCL allows for appraisal rights only in connection with certain mergers or consolidations. PharmAthene stockholders are not entitled to appraisal rights under the DGCL in connection with the mergers described herein. See the section entitled "The Mergers — Appraisal Rights" of this proxy statement/prospectus/consent solicitation.

	Altimmune	PharmAthene
Certain Business Combinations/ Anti-Takeover Provisions	Altimmune is not subject to restrictions on business combinations of Section 203 of the DGCL. Generally, Section 203 prohibits a publicly-held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is, or the transaction in which the person became an interested stockholder was, approved in a prescribed manner or another prescribed exception applies. For purposes of Section 203, a "business combination" is defined broadly to include a merger, asset sale or other transaction resulting in a financial benefit to the interested stockholder, and, subject to certain exceptions, an "interested stockholder" is a person who, together with his or her affiliates and associates, owns, or within three years prior, did own, fifteen percent or more of the corporation's voting stock. In addition, the vote or written consent of the holders of at least 65% of the outstanding shares of Altimmune Class A Common Stock and Altimmune Series B Preferred Stock, voting together as single class on an as-converted to common stock basis, shall be necessary for effecting or validating certain actions, including such actions consummated by merger, amendment, recapitalization, consolidation or otherwise, including (i) any amendment, alteration, or repeal of any provision of the Altimmune Articles or the Altimmune Bylaws; (ii) any increase in the authorized number of shares of capital stock of the Corporation; and (iii) any authorization, designation or issuance, whether by reclassification or otherwise, of any new class or series of stock or any other equity or debt securities convertible into equity securities of the Corporation ranking on a parity with or senior to any preferred stock in right of redemption, liquidation preference, voting or dividends or any increase in the authorized or designated number of any such new class or series.	Under Delaware law, a corporation can elect not to be governed by Section 203 of the DGCL, which generally protects publicly held Delaware corporations from engaging in business combinations with persons who acquire beneficial ownership of 15% or more of the corporation's voting stock, without prior board approval. PharmAthene has elected not to be governed by Section 203 of the DGCL.

LEGAL MATTERS

The validity of the shares of PharmAthene common stock offered by this proxy statement/prospectus/consent solicitation has been passed upon for PharmAthene by Dentons US LLP. Certain U.S. federal income tax consequences of a reverse split have been passed upon for PharmAthene by Dentons US LLP. Certain material U.S. federal income tax consequences of the mergers have been passed upon for PharmAthene by Dentons US LLP and for Altimmune by Proskauer Rose LLP.

EXPERTS

The consolidated financial statements of PharmAthene, Inc. appearing in PharmAthene, Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2016, and the effectiveness of PharmAthene, Inc.'s internal control over financial reporting as of December 31, 2016 have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their reports thereon, incorporated by reference therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

The consolidated financial statements of Altimmune, Inc. as of December 31, 2016 and 2015 and for the years then ended included in this Proxy Statement/Prospectus have been so included in reliance on the report of BDO USA, LLP, an independent registered public accounting firm (the report on the consolidated financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern) appearing elsewhere herein, given on the authority of said firm as experts in auditing and accounting.

The financial statements of Altimmune UK Limited (formerly Immune Targeting Systems (ITS) Limited) as of November 30, 2014 and 2013 and for each of the two years in the period ended November 30, 2014, included in this Prospectus and Registration Statement have been so included in reliance on the report of BDO LLP, independent accountants, (the report on the financial statements contains an explanatory paragraph regarding Altimmune UK Limited's ability to continue as a going concern) appearing elsewhere herein and in the Registration Statement, given on the authority of said firm as experts in auditing and accounting. BDO LLP, London, United Kingdom, is a member of the Institute of Chartered Accountants in England and Wales.

Annual Accounts and Independent Auditor of Altimmune UK Limited

Under the Companies Act 2006, Altimmune UK Limited is obliged to deliver to the Registrar of Companies each relevant year a copy of:

- the company's annual accounts;
- the directors' report;
- the auditor's report on those accounts and on the directors' report.

Altimmune UK Limited must send a copy of its annual accounts and reports for each financial year to the shareholders, debenture holders and everyone entitled to receive notice of general meetings of Altimmune UK Limited. Such copies must be sent no later than the end of the period for filing such accounts and reports with the UK Registrar of Companies or, if earlier, the date on which Altimmune UK Limited actually delivers its accounts and reports to the UK Registrar of Companies. The period for filing with the UK Registrar of Companies the statutory accounts of Altimmune UK is nine months from its financial year end date. Altimmune UK Limited's articles of association provide that such documents may be distributed in electronic form.

The consolidated financial statements of Altimmune UK Limited included in this prospectus do not constitute statutory accounts within the meaning of Section 434 of the Companies Act 2006. Altimmune UK Limited prepared statutory financial statements under United Kingdom Generally Accepted Accounting Practice for the year ended November 30, 2014, which have been filed with the Registrar of Companies. Those statutory accounts have been reported on by other auditors acting as the Independent Auditors under applicable law and the International Standards on Auditing (UK and Ireland). The Independent Auditors' Reports' on the Annual Reports and Financial Statements for 2014 and 2013 were unqualified, did not draw attention to any matters by way of emphasis, and did not contain a statement under 498(2) or 498(3) of the Companies Act 2006.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

PharmAthene files annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any documents PharmAthene files at the SEC public reference room located at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room. The SEC filings of PharmAthene are also available to the public at the SEC website at *www.sec.gov*. You may obtain free copies of the documents PharmAthene files with the SEC, including the registration statement on Form S-4, of which this proxy statement/prospectus/consent solicitation forms a part, by going to the Investor Relations page on PharmAthene's Internet website at *http://www.pharmathene.com*. The Internet website addresses of PharmAthene is provided as inactive textual references only. The information provided on the Internet website of PharmAthene, other than copies of the documents listed below that have been filed with the SEC, is not part of this proxy statement/prospectus/consent solicitation and, therefore, is not incorporated herein by reference.

Statements contained in this proxy statement/prospectus/consent solicitation, or in any document incorporated by reference into this proxy statement/prospectus/consent solicitation regarding the contents of any contract or other document, are not necessarily complete and each such statement is qualified in its entirety by reference to that contract or other document filed as an exhibit with the SEC. The SEC allows PharmAthene to "incorporate by reference" into this proxy statement/prospectus/consent solicitation documents PharmAthene files with the SEC including certain information required to be included in the registration statement on Form S-4 filed by PharmAthene to register the shares of PharmAthene common stock that will be issued in the mergers, of which this proxy statement/prospectus/consent solicitation forms a part. This means that PharmAthene can disclose important information to you by referring you to those documents. The information incorporated by reference into this proxy statement/prospectus/consent solicitation is considered to be a part of this proxy statement/prospectus/consent solicitation, and later information that PharmAthene files with the SEC will update and supersede that information. PharmAthene incorporates by reference the documents listed below and any documents subsequently filed by it pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act before the date of the special meeting.

- Annual Report on Form 10-K for the fiscal year ended December 31, 2016 (filed with the SEC on March 14, 2017);
- Current Reports on Form 8-K filed with the SEC on January 19, 2017, February 1, 2017 (except with respect to Item 7.01 and Exhibit 99.1), March 14, 2017 (except with respect to Item 2.02 and Exhibit 99.1) and March 29, 2017;
- Amended and Restated Certificate of Incorporation of PharmAthene, as amended, filed as Exhibit 3.1 to the Current Report on form 8-K of PharmAthene filed with the SEC on November 4, 2009;
- Certificate of Designation, filed as Exhibit 3.1 to PharmAthene's Current Report on Form 8-K filed with the SEC on November 25, 2015.
- By-laws, as amended, filed as Exhibit 3.1 to PharmAthene's Current Report on Form 8-K filed with the SEC on January 14, 2014; and
- The description of PharmAthene's common stock, which is registered under Section 12 of the Exchange Act, in PharmAthene's registration statement on Form 8-A filed with the SEC on July 27, 2005, including any amendments or reports filed for the purpose of updating such description.
- The description of PharmAthene's Series A Junior Participating Preferred Stock, which is registered under Section 12 of the Exchange Act, in PharmAthene's registration statement on Form 8-A filed with the SEC on November 25, 2015, including any amendments or reports filed for the purpose of updating such description.

Any person may request a copy of this proxy statement/prospectus/consent solicitation and any of the documents incorporated by reference into this proxy statement/prospectus/consent solicitation or other information concerning PharmAthene, without charge, by written or telephonic request to PharmAthene, Inc.,

One Park Place, Annapolis, MD 21401, Attention: Philip MacNeill, Telephone (410) 269-2600; or from the SEC through the SEC website at the address provided above.

Notwithstanding the foregoing, information furnished by PharmAthene on any Current Report on Form 8-K, including the related exhibits, that, pursuant to and in accordance with the rules and regulations of the SEC, is not deemed "filed" for purposes of the Exchange Act will not be deemed to be incorporated by reference into this proxy statement/prospectus/consent solicitation.

THIS PROXY STATEMENT/PROSPECTUS/CONSENT SOLICITATION DOES NOT CONSTITUTE THE SOLICITATION OF A PROXY IN ANY JURISDICTION TO OR FROM ANY PERSON TO WHOM OR FROM WHOM IT IS UNLAWFUL TO MAKE SUCH PROXY SOLICITATION IN THAT JURISDICTION. YOU SHOULD RELY ONLY ON THE INFORMATION CONTAINED OR INCORPORATED BY REFERENCE INTO THIS PROXY STATEMENT/PROSPECTUS/CONSENT SOLICITATION TO VOTE YOUR SHARES OF PHARMATHENE COMMON STOCK AT THE SPECIAL MEETING. PHARMATHENE HAS NOT AUTHORIZED ANYONE TO PROVIDE YOU WITH INFORMATION THAT IS DIFFERENT FROM WHAT IS CONTAINED IN THIS PROXY STATEMENT/PROSPECTUS/CONSENT SOLICITATION. THIS PROXY STATEMENT/PROSPECTUS IS DATED , 2017. YOU SHOULD NOT ASSUME THAT THE INFORMATION CONTAINED IN THIS PROXY STATEMENT/PROSPECTUS/CONSENT SOLICITATION IS ACCURATE AS OF ANY DATE OTHER THAN THAT DATE, AND THE MAILING OF THIS PROXY STATEMENT/PROSPECTUS/CONSENT SOLICITATION TO SHAREHOLDERS DOES NOT CREATE ANY IMPLICATION TO THE CONTRARY.

OTHER MATTERS

Stockholder Proposals for 2017 Annual Meeting

In order for a stockholder proposal to be considered for inclusion in PharmAthene's proxy statement for the 2017 annual meeting pursuant to Rule 14a-8 of the SEC, the proposal must have been received at PharmAthene's offices no later than the close of business on January 2, 2017 (120 days prior to the first anniversary of the date that the proxy statement for PharmAthene's 2016 annual meeting was first mailed to stockholders). If PharmAthene changes the date of its 2017 annual meeting such that it is more than 30 days from the corresponding date of the 2016 annual meeting, then the deadline is a reasonable time before PharmAthene begins to print and send its proxy materials. Upon any determination that the date of the 2017 annual meeting will be advanced or delayed by more than 30 days from the corresponding date of the 2016 annual meeting, PharmAthene will disclose the change in the earliest practicable Quarterly Report on Form 10-Q.

For any proposal that is not submitted for inclusion in the proxy statement for the 2017 annual meeting by the deadline identified above, SEC rules permit management to vote proxies in its discretion if PharmAthene: (a) receives notice of the proposal more than 45 days prior to the anniversary of the date of the proxy statement for the 2016 annual meeting and PharmAthene advises stockholders in the proxy statement for the 2017 annual meeting about the nature of the matter and how management intends to vote on such matter (subject to the right of the proposing stockholder to deliver a proxy statement and proxy of its own in compliance with the terms of Rule 14a-4(c)(2) under the Exchange Act and the PharmAthene Bylaws), or (b) does not receive notice of the proposal at least 45 days prior to the anniversary of the date of the proxy statement for the 2016 annual meeting.

In addition, the PharmAthene Bylaws provide that stockholders must provide notice and other materials relating to any business to be proposed by stockholders for consideration at PharmAthene's annual meeting of stockholders, including but not limited to the nomination by a stockholder of candidates to stand for election as a member of PharmAthene's Board of Directors, not less than 90 nor more than 120 days prior to the anniversary of the preceding year's annual meeting of stockholders, with certain exceptions in the event the meeting date changes significantly from the prior year's meeting date.

Any stockholder who wishes to submit a stockholder proposal should send it to PharmAthene, Inc., One Park Place, Suite 450, Annapolis, Maryland 21401, c/o Corporate Secretary**.**

HOUSEHOLDING OF PROXY MATERIALS

Beneficial owners of common stock who share a single address may receive only one copy of the Notice or the proxy materials, as the case may be, unless their broker, bank or nominee has received contrary instructions from any beneficial owner at that address. This practice, known as “householding,” is designed to reduce printing and mailing costs. If any beneficial owner(s) at such an address wish to discontinue householding and receive a separate copy of the Notice or the proxy materials, as the case may be, or if beneficial owners sharing an address who are currently receiving separate copies wish to receive only one copy, they may contact Broadridge, either by calling (800) 579-1639, or by writing to Broadridge, Householding Department, 51 Mercedes Way, Edgewood, New York, 11717.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS OF ALTIMMUNE

ALTIMMUNE, INC. AND SUBSIDIARIES

Consolidated Financial Statements as of and for the Years Ended December 31, 2015 and 2016

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders
Altimmune, Inc.
Gaithersburg, Maryland

We have audited the accompanying consolidated balance sheets of Altimmune, Inc. and subsidiaries (the "Company") as of December 31, 2016 and 2015 and the related consolidated statements of operations and comprehensive loss, redeemable convertible preferred stock and stockholders' equity, and cash flows for the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Altimmune, Inc. and subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for the years then ended**,** in conformity with accounting principles generally accepted in the United States of America.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As described in Note 2 to the consolidated financial statements, the Company has incurred recurring losses, negative cash flows from operations, negative working capital, and losses are expected to continue in the future. These factors raise substantial doubt about its ability to continue as a going concern. Management's plans in regards to these matters are also described in Note 2. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ BDO USA, LLP

McLean, Virginia
March 29, 2017

ALTIMMUNE, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

	December 31, 2015	December 31, 2016	Effect of Pro Forma Adjustments (Unaudited) December 31, 2016
ASSETS			
Current assets:			
Cash	$ 4,638,711	$ 2,876,113	$ 2,876,113
Accounts receivable	513,675	383,046	383,046
Prepaid expenses and other current assets	412,407	420,424	420,424
Tax credit refund receivable	609,593	807,507	807,507
Total current assets	6,174,386	4,487,090	4,487,090
Property and equipment, net	126,156	177,859	177,859
Intangible assets, net	17,821,110	14,954,717	14,954,717
Other assets	1,972,407	22,248	22,248
Goodwill	22,494,691	18,758,421	18,758,421
Total assets	$ 48,588,750	$ 38,400,335	$ 38,400,335
LIABILITIES AND STOCKHOLDERS' EQUITY			
Current liabilities:			
Current portion of notes payable	$ 537,740	$ 458,629	$ 262,133
Accounts payable	1,211,037	2,005,208	2,005,208
Accrued expenses and other current liabilities	2,520,830	2,972,745	2,145,639
Current portion of deferred revenue	75,643	19,753	19,753
Current portion of deferred rent	8,876	14,388	14,388
Total current liabilities	4,354,126	5,470,723	4,447,121
Preferred stock subscription	325,280	—	
Unvested restricted stock repurchase liability	—	1,001	470
Notes payable, long-term portion	545,232	525,950	525,950
Deferred revenue, long-term portion	199,177	179,424	179,424
Deferred rent, long-term portion	30,302	15,914	15,914
Total liabilities	5,454,117	6,193,012	5,168,879
Commitments and contingencies			
Stockholders' equity:			
Series B convertible preferred stock; $0.01 par value; 800,000 shares authorized; 200,001 and 800,000 shares issued and outstanding at December 31, 2015 and 2016, respectively; aggregate liquidation preference of $2,018,092 and $8,386,630 at December 31, 2015 and 2016, respectively; none issued and outstanding pro forma (unaudited)	2,000	8,000	—
Common stock, $0.01 par value			
Class A, 15,610,215 shares authorized; 9,187,080 and 9,294,622 issued at December 31, 2015 and 2016, respectively; 9,187,080 and 9,195,109 shares outstanding at December 31, 2015 and 2016, respectively; 10,235,816 shares issued and 10,189,377 shares outstanding pro forma (unaudited)	91,871	91,951	101,894
Class B, 3,146,896 shares authorized; 38,836 shares issued and outstanding at December 31, 2015 and 2016; none issued and outstanding pro forma (unaudited)	388	388	—
Additional paid-in capital	63,982,371	70,941,245	72,367,716
Accumulated deficit	(20,172,637)	(31,259,449)	(31,663,342)
Accumulated other comprehensive loss – foreign currency translation adjustments	(769,360)	(7,574,812)	(7,574,812)
Total stockholders' equity	43,134,633	32,207,323	33,231,456
Total liabilities and stockholders' equity	$ 48,588,750	$ 38,400,335	$ 38,400,335

See accompanying notes to consolidated financial statements.

ALTIMMUNE, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

	Year Ended December 31,	
	2015	2016
License revenue	$ 630,952	$ 410,102
Research grants and contracts	4,023,516	2,826,073
Total revenue and grants and contracts	4,654,468	3,236,175
Operating expenses		
Research and development	5,063,650	7,221,460
General and administrative	6,178,829	7,106,378
Total operating expenses	11,242,479	14,327,838
Loss from operations	(6,588,011)	(11,091,663)
Other (expense) income:		
Interest expense	(55,305)	(38,499)
Interest income	206	1,047
Other expense	(5,792)	(4,284)
Other income	—	46,587
Total other (expense) income, net	(60,891)	4,851
Net loss	(6,648,902)	(11,086,812)
Other comprehensive loss – foreign currency translation adjustments	(769,360)	(6,805,452)
Total comprehensive loss	$ (7,418,262)	$ (17,892,264)
Net loss	$ (6,648,902)	$ (11,086,812)
Accumulated dividends on preferred stock	138,555	368,548
Net loss attributed to common stockholders	$ (6,787,457)	$ (11,455,360)
Weighted-average common shares outstanding, basic and diluted	7,688,651	9,226,376
Net loss per share attributed to common stockholders, basic and diluted	$ (0.88)	$ (1.24)
Pro forma weighted-average common shares outstanding, basic and diluted (unaudited)		9,954,499
Pro forma net loss per share, basic and diluted (unaudited)		$ (1.11)

See accompanying notes to consolidated financial statements.

ALTIMMUNE, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF REDEEMABLE CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY

Convertible Preferred Stock	Common Stock																	
	Redeemable Series A-1		Series A		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' (Deficit) Equity	Series A-1		Series A-2		Series B		Class A		Class B	
	Shares	Amount	Shares	Amount					Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount
Balance, January 1, 2015	**84,959**	**$ 465,551**	**1,515,396**	**$ 15,154**	**258,338**	**$ 2,583**	**247,141**	**$ 2,471**	**—**	**$ —**	**1,122,938**	**$ 11,229**	**—**	**$ —**	**$11,202,360**	**$(13,523,735)**	**$ —**	**$ (2,289,938)**
Stock based compensation															945,458			945,458
Exercises of stock options											38,321	384			6,321			6,705
Accumulated dividends on preferred stock		4,584													(4,584)			(4,584)
Conversion of preferred stock	(84,959)	(470,135)	(1,515,396)	(15,154)	(258,338)	(2,583)	(247,141)	(2,471)			2,105,834	21,059			469,284			470,135
Exercises of common stock warrants											27,073	270			9,097			9,367
Issuance of common stock from acquisition of subsidiaries											3,873,182	38,732	39,123	391	41,409,414			41,448,537
Issuance of common stock in lieu of preferred dividends											1,248,133	12,481			(12,481)			—
Issuance of common stock											800,000	8,000			7,992,000			8,000,000
Treasury shares repurchased at no cost											(28,401)	(284)	(287)	(3)	287			—
Issuance of Series B convertible preferred stock, net of issuance costs									200,001	2,000					1,965,215			1,967,215
Foreign currency translation adjustments																	(769,360)	(769,360)
Net loss																(6,648,902)		(6,648,902)
Balance, December 31, 2015	**—**	**$ —**	**—**	**$ —**	**—**	**$ —**	**—**	**$ —**	**200,001**	**$ 2,000**	**9,187,080**	**$ 91,871**	**38,836**	**$ 388**	**$63,982,371**	**$(20,172,637)**	**$ (769,360)**	**$ 43,134,633**
Stock based compensation															794,582			794,582
Exercises of stock options											1,395	14			549			563
Vesting of restricted stock											6,634	66			170,783			170,849
Accumulated dividends on preferred stock															—			—
Issuance of Series B convertible preferred stock, net of issuance costs									599,999	6,000					5,992,960			5,998,960
Foreign currency translation adjustments																	(6,805,452)	(6,805,452)
Net loss																(11,086,812)		(11,086,812)
Balance, December 31, 2016	**—**	**$ —**	**—**	**$ —**	**—**	**$ —**	**—**	**$ —**	**800,000**	**$ 8,000**	**9,195,109**	**$ 91,951**	**38,836**	**$ 388**	**$70,941,245**	**$(31,259,449)**	**$ (7,574,812)**	**$ 32,207,323**

ALTIMMUNE, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,	
	2015	2016
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$(6,648,902)	$(11,086,812)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	945,458	965,365
Depreciation	51,629	63,109
Amortization	40,635	72,236
Loss from disposal of property and equipment		577
Gain on settlement of note payable	—	(45,573)
Write-off of deferred offering costs	—	2,562,377
Changes in operating assets and liabilities:		
Accounts receivable	(228,839)	130,630
Prepaid expenses and other current assets	(116,952)	(50,668)
Accounts payable	(380,128)	853,886
Accrued expenses and other current liabilities	687,178	591,562
Deferred revenue	(70,938)	(75,643)
Deferred rent	(3,524)	(8,876)
Tax credit refund receivable	635,667	(325,178)
Net cash used in operating activities	(5,088,716)	(6,353,008)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Cash assumed from acquiring subsidiaries	1,602,708	—
Purchases of property and equipment	(86,288)	(124,955)
Additions to intangible assets	(64,962)	(95,615)
Net cash provided by (used in) investing activities	1,451,458	(220,570)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Repayments of notes payable	(412,505)	(81,098)
Proceeds from issuance of notes	89,034	531
Payments of deferred offering costs	(1,950,159)	(612,218)
Proceeds from issuance of Class A Common Stock	8,000,000	—
Proceeds from issuance of Series B convertible preferred stock, net of issuance costs	1,967,215	5,673,680
Proceeds from Series B convertible preferred stock subscription	325,280	—
Proceeds from issuance of restricted stock	—	1,067
Proceeds from exercise of common stock warrants	8,844	—
Proceeds from exercise of stock options	4,845	563
Net cash provided by financing activities	8,032,554	4,982,525
EFFECT OF EXCHANGE RATES ON CASH	110,338	(171,545)
Net increase (decrease) in cash	4,505,634	(1,762,598)
Cash, beginning of period	133,077	4,638,711
Cash, end of period	$ 4,638,711	$ 2,876,113
SUPPLEMENTAL CASH FLOW INFORMATION:		
Cash paid for interest	$ 77,182	$ 4,635
SUPPLEMENTAL NON-CASH FINANCING ACTIVITIES:		
Accumulated dividends on preferred stock	$ 4,584	$ 368,548
Issuance of common stock in lieu of preferred stock dividends	$ 12,481	$ —
Conversion of preferred stock into Class A Common Stock	$ 490,343	$ —
Cashless exercise of stock options	$ 1,860	$ —
Cashless exercise of common stock warrants	$ 523	$ —
Accrued interest capitalized as note payable	$ 235	
Preferred stock subscription reclassified as additional paid-in capital upon preferred stock issuance	$ —	$ 325,280

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Nature of Business and Basis of Presentation

Nature of business

Altimmune, Inc. ("Altimmune"), together with its subsidiaries (collectively, the "Company") is a clinical stage biopharmaceutical company incorporated in 1997 under the laws of the State of Delaware. The Company is focused on discovering and developing immunotherapies and vaccines to address significant unmet medical needs. Since its inception, the Company has devoted substantially all of its efforts to business planning, research and development, recruiting management and technical staff, and raising capital, and has financed its operations through the issuance of common and convertible preferred stock, long-term debt, and proceeds from research grants and government contracts. The Company has not generated any revenues from sale of any products to date, nor is there any assurance of any future revenues from product sales.

The Company is headquartered in Gaithersburg, Maryland, United States. In March 2015, the Company acquired all of the outstanding shares of Immune Targeting Systems (ITS) Limited in a share exchange transaction (the "Acquisition") (Note 5). Immune Targeting Systems (ITS) Limited, headquartered in the United Kingdom, is a clinical stage biopharmaceutical company focused on developing immunotherapies against hepatitis B virus and cancer. Immune Targeting Systems (ITS) Limited, along with its wholly owned subsidiary in France (collectively, "ITS"), were subsequently renamed Altimmune UK Limited and Altimmune France SAS, respectively. In anticipation of the Acquisition, Altimmune recapitalized its equity securities in a transaction that included: (i) the conversion of all shares of preferred stock outstanding as of the acquisition date into common stock; (ii) the conversion of all preferred stock warrants into common stock warrants; (iii) a reverse stock split of all outstanding and converted common stock, common stock warrants and common stock options at a 6.27-to-1 ratio; and (iv) the issuance of a common stock dividend, in the amount of 0.002411 shares per outstanding share of common stock, to preferred stockholders in lieu of cash payment to settle accumulated preferred stock dividends. All historical share and per share information has been retroactively adjusted to reflect the impact of the reverse stock split.

The Company operates in an environment of rapid technological change and substantial competition from pharmaceutical and biotechnology companies. The Company is subject to risks common to companies in the biopharmaceutical industry in a similar stage of their life cycle including, but not limited to: the significant losses that the Company has incurred since its founding and anticipates it will continue to incur for the foreseeable future; the fact that the Company's profitability depends on its ability to develop and commercialize its current and future product candidates; the high risk of failure of product candidates in an early stage of development; the need for substantial additional financing; the potential for substantial delays in clinical trials, which may fail to meet the approval of regulatory authorities; the difficulty of predicting the time and cost of product development; reliance on third parties to conduct preclinical studies and clinical trials; substantial competition from other pharmaceutical and biotechnology companies, which may discover, develop or commercialize products before or more successfully than the Company; and the substantial cost and difficulty of protecting the Company's proprietary rights. There can be no assurance that the Company's research and development will be successfully completed, that adequate protection for the Company's intellectual property will be obtained, that any products developed will obtain required regulatory approval or that any approved products will be commercially viable. Even if the Company's development efforts are successful, it is uncertain when, if ever, the Company will generate significant product sales. If the Company does not successfully commercialize any of its products or mitigate any of these other risks, it will be unable to generate revenue or achieve profitability.

Basis of presentation

The accompanying consolidated financial statements are prepared in conformity with accounting principles general accepted in the United States ("U.S. GAAP"). The consolidated financial statements have been prepared on the basis of continuity of operations, realization of assets, and the satisfaction of liabilities in the ordinary course of business. The consolidated financial statements do not include any adjustments relating

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Nature of Business and Basis of Presentation – (continued)

to the recoverability and classification of recorded assets and liabilities that might be necessary should the Company be unable to continue as a going concern (see Note 2).

Guarantees and indemnifications

As permitted under Delaware law, the Company indemnifies its officers, directors, consultants and employees for certain events or occurrences that happen by reason of the relationship with, or position held at, the Company. Through December 31, 2016, the Company had not experienced any losses related to these indemnification obligations, and no claims were outstanding. The Company does not expect significant claims related to these indemnification obligations and, consequently, concludes that the fair value of these obligations is negligible, and no related reserves are established.

2. Going Concern

The accompanying consolidated financial statements have been prepared assuming the Company will continue as a going concern. The Company has experienced recurring losses in past years. The Company incurred a net loss of $11,086,812 and used $6,353,008 in cash to fund operations during 2016, and had an accumulated deficit of $31,259,449 as of December 31, 2016. The Company expects to incur additional losses in the future in connection with research and development activities. Since inception, the Company has financed its activities principally from the issuance of equity and debt securities.

The Company's ability to continue as a going concern is dependent upon the Company's ability to raise additional debt and equity capital. There can be no assurance that such capital will be available in sufficient amounts or on terms acceptable to the Company. These factors raise substantial doubt about the Company's ability to continue as a going concern. The accompanying consolidated financial statements do not include any adjustments relating to the recoverability of the recorded assets or the classification of liabilities that may be necessary should the Company be unable to continue as a going concern.

As of December 31,2016, the Company does not have sufficient capital to fund its plan of operations over the next twelve months. In order to address its capital needs, including its planned clinical trials, in addition to the Stock Purchase Agreement and the private placement described in Note 19, the Company must continue to actively pursue additional equity or debt financing. The Company has been in ongoing discussions with institutional investors and investment banks with respect to such financing.

Adequate financing opportunities might not be available to the Company, when and if needed, on acceptable terms, or at all. If the Company is unable to obtain additional financing in sufficient amounts or on acceptable terms under such circumstances the Company's operating results and prospects will be adversely affected.

As more fully described in Note 19, in January 2017, in connection with a plan of merger and reorganization with PharmAthene, Inc., the Company entered into an irrevocable agreement for the private placement of $8.6 million of 6% convertible notes. The aggregate amounts raised from the private placement, combined with cash on hand as of December 31, 2016, is expected to fund the Company's operations and research and development efforts at least through March 2018.

3. Summary of Significant Accounting Policies

Principles of consolidation

The consolidated financial statements include the accounts of Altimmune and its subsidiaries, all of which are wholly owned. Intercompany accounts and transactions have been eliminated in consolidation.

Use of estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses, and the

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

3. Summary of Significant Accounting Policies – (continued)

disclosure of contingent assets and liabilities as of and during the reporting period. The Company bases estimates and assumptions on historical experience when available and on various factors that it believes to be reasonable under the circumstances. Significant estimates relied upon in preparing the accompanying consolidated financial statements related to revenue recognition, the fair value of common stock and other equity instruments, accounting for stock-based compensation, income taxes, collectability of accounts receivable, useful lives of long lived assets, fair value of assets acquired and liabilities assumed, goodwill, and accounting for project development and certain accruals. The Company assesses the above estimates on an ongoing basis; however, actual results could differ materially from those estimates.

Comprehensive loss

For each period presented, the total comprehensive loss includes net loss and other comprehensive loss which represents foreign currency translation adjustments.

Foreign currency translation

Assets and liabilities of Altimmune UK Limited and Altimmune France SAS, whose functional currencies are the British pound and Euro, respectively, are translated at period-end exchange rates, while revenues and expenses are translated at average exchange rates for each quarterly the period. Translation adjustments are reflected as accumulated other comprehensive loss within stockholders' equity. Translation adjustments from intercompany advances that the Company does not anticipate settling in the foreseeable future are recorded in accumulated other comprehensive loss within stockholders' equity. Gains and losses on foreign currency transactions are included in the consolidated statements of operations and comprehensive loss as a component of operating expenses.

Segment information

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision maker, the Company's Chief Executive Officer ("CEO"), in making decisions regarding resource allocation and assessing performance. The Company views its operations and manages its business in one operating segment, the research and development of immunotherapies and vaccines.

Business combination

The Company uses its best estimates and assumptions to accurately assign fair value to the tangible and intangible assets acquired and liabilities assumed at the acquisition date. The Company's estimates are inherently uncertain and subject to refinement. During the measurement period, which may be up to one year from the acquisition date, the Company may record adjustments to the fair value of these tangible and intangible assets acquired and liabilities assumed, with the corresponding offset to goodwill. In addition, uncertain tax positions and tax-related valuation allowances are initially established in connection with a business combination as of the acquisition date. The Company collects information and reevaluates these estimates and assumptions quarterly and records any adjustments to the Company's preliminary estimates to goodwill during the measurement period. Upon the conclusion of the measurement period or final determination of the fair value of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to the Company's consolidated statements of operations and comprehensive loss.

Amounts paid for acquisitions are allocated to the tangible assets acquired and liabilities assumed based on their estimated fair values at the date of acquisition. The Company allocates the purchase price in excess of net tangible assets acquired to identifiable intangible assets, including purchased research and development. The fair value of identifiable intangible assets is based on detailed valuations that use information and assumptions provided by management. The Company allocates any excess purchase price over the fair value of the net tangible and intangible assets acquired to goodwill.

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

3. Summary of Significant Accounting Policies – (continued)

The Company's purchased research and development represents the estimated fair value as of the acquisition date of substantive in-process projects that have not reached technological feasibility. The primary basis for determining technological feasibility of these projects is obtaining regulatory approval.

The valuation of in-process research and development ("IPR&D") assets is determined using the discounted cash flow method. In determining the value of IPR&D assets, the Company considers, among other factors, the stage of completion of the projects, the technological feasibility of the projects, whether the projects have an alternative future use and the estimated residual cash flows that could be generated from the various projects and technologies over their respective projected economic lives. The discount rate used is determined at the time of acquisition and includes a rate of return which accounts for the time value of money, as well as risk factors that reflect the economic risk that the cash flows projected may not be realized.

Intangible assets

Intangible assets acquired in a business combination consist primarily of IPR&D assets. The value attributable to IPR&D projects at the time of acquisition is capitalized as an indefinite-lived intangible asset and tested for impairment until the project is completed or abandoned. Upon completion of the project, the indefinite-lived intangible asset will be accounted for as a finite-lived intangible asset and amortized on a straight-line basis over its estimated useful life. If the project is abandoned, the indefinite-lived intangible asset will be charged to expense.

Intangible assets acquired in other transactions are recorded at cost. Intangible assets with finite useful lives consist of legal costs incurred in the course of obtaining patents and license issuance fees for the use of proprietary technologies. Costs incurred for obtaining patents are amortized on a straight-line basis over the estimated useful lives of the assets from the time of approval of the patent. Prior to approval, these costs are carried on the balance sheet and not amortized. In the event approval is denied, the cost of the denied application is expensed. License issuance fees are amortized on a straight-line basis over the estimated useful lives of the underlying licensed technology. Intangible assets with finite useful lives are being amortized over 6 to 20 years and are evaluated separately from indefinite-lived intangible assets for impairment at least annually or whenever events or circumstances indicate that the carrying amount of an asset may not be recoverable.

Goodwill

Goodwill represents the excess of the purchase price of an acquired entity over the amounts assigned to assets and liabilities assumed in a business combination. The Company tests goodwill for impairment during the fourth quarter of each year, or more frequently if impairment indicators arise, utilizing a two-step approach. The first step is to compare the carrying value of the reporting units to their respective fair values. The Company estimates the fair value of its reporting units through internal analyses and valuation, utilizing an income approach based on the present value of future cash flows. If the carrying value of a reporting unit exceeds its fair value, the Company performs the second step of the goodwill impairment test to measure the amount of impairment, if any. The second step compares the implied fair value of a reporting unit's goodwill with its carrying value. To determine the implied fair value of goodwill, the Company allocates the fair value of a reporting unit to all of the assets and liabilities of that unit, including intangible assets, as if the reporting unit had been acquired in a business combination. Any excess of the value of a reporting unit over the amounts assigned to its assets and liabilities represents the implied fair value of goodwill. Based on the Company's analysis, there are no indications currently present that would indicate that goodwill is impaired and there has been no impairment of goodwill.

Acquisition-related costs

Acquisition-related costs are expensed as incurred and include direct and incremental costs associated with an acquisition. The $1,297,846 and $671,248 of acquisition-related costs incurred in 2015 and 2016, respectively, were primarily professional fees and are included in general and administrative expenses.

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

3. Summary of Significant Accounting Policies – (continued)

License revenue

License revenue is recognized when (i) persuasive evidence of an arrangement exists, (ii) delivery has occurred or services have been rendered, (iii) the fee is fixed or determinable, and (iv) collectability is reasonably assured. When one or more of the revenue recognition criteria are not met, the Company defers the recognition of revenue until such time that all criteria are met. The Company has granted a license to one of its investors providing for an exclusive right to use, market, sell, and import the Company's potential vaccine products in the territory provided by the license. The terms of the agreement included non-refundable upfront fees, annual license maintenance fees, and potential royalties from the licensee's sale of the licensed products. The non-refundable upfront fees are deferred and recognized over the license term, which is considered to extend to the expiration of all licensed patents included in the license. Annual license maintenance fees are recognized when due and payable if collection is reasonably assured. Royalty revenue, if any, will be recognized based upon actual and estimated net sales by the licensee in the period sales occur.

Research grants and contracts

Research grants and contracts are derived from government and foundation grants and contracts that support the Company's efforts on specific research projects. These grants and contracts generally provide for reimbursement of approved costs as those costs are incurred by the Company. Research grants and contracts and the related accounts receivable are recognized as earned when reimbursable expenses are incurred and the earnings process is complete. Payments received in advance of services being provided are recorded as deferred revenue.

Concentrations of credit risk

Financial instruments that potentially subject the Company to significant concentration of credit risk consist primarily of cash and accounts receivable. Periodically, the Company maintains deposits in financial institutions in excess of government insured limits. Management believes that the Company is not exposed to significant credit risk as the Company's deposits are held at financial institutions that management believes to be of high credit quality. The Company has not experienced any losses in these deposits.

The Company recognizes research grants and contracts earned in connection with the services provided on research and development projects. The Company provides credit in the normal course of providing such services based on evaluations of the grantors' financial condition and generally does not require collateral. To manage accounts receivable credit risk, the Company monitors the creditworthiness of its grantors. Historically, the Company has not experienced any credit losses related to accounts receivable and does not maintain allowances for uncollectible amounts.

Grantors that represented 10% or more of research grants and contracts for the years ended December 31, 2015 and 2016 and grantors that accounted for 10% or more of accounts receivable at December 31, 2015 and 2016, are presented below:

	Year Ended December 31,	
	2015	2016
Research Grants and Contracts		
Biomedical Advanced Research and Development Authority ("BARDA")	100%	81%
Texas A&M University System	—%	19%

	December 31,	
	2015	2016
Accounts Receivable		
BARDA	100%	100%

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

3. Summary of Significant Accounting Policies – (continued)

Property and equipment, net

Property and equipment are stated at cost. Expenditures for maintenance and repairs are charged to operations as incurred, whereas major improvements are capitalized as additions to property and equipment. Depreciation and amortization are recorded using the straight-line method over the estimated useful lives of the assets, as follows:

Asset Category	Estimated Useful Life
Office furniture and equipment	5 years
Laboratory equipment	7 years
Leasehold improvements	Lesser of lease term or estimated useful lives

Patent and licensing costs

Patent and licensing costs that are incurred on behalf of, or reimbursable under, research grant arrangements are capitalized as intangible assets and amortized over the estimated useful lives of the assets. All other patents and licensing costs are expensed as incurred because their realization is uncertain. These costs are classified as research and development expenses in the accompanying statements of operations and comprehensive loss.

Impairment of long-lived assets

The Company evaluates its long-lived tangible and intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Impairment is assessed by comparing the undiscounted cash flows expected to be generated by the asset to its carrying value. If impairment exists, the Company calculates the impairment by comparing the carrying value of the asset to its fair value as determined by discounted expected cash flows. The Company did not record any impairments in the year ended December 31, 2015. The Company abandoned certain patent applications during the year ended December 31, 2016 and recorded the $25,198 impairment loss as part of amortization expense.

Financial instruments

The Company's financial instruments consist of cash, accounts receivable, accounts payable, accrued expenses, notes payable, common stock warrants, convertible preferred stock warrants, tranche obligations, and beneficial conversion features (Note 13). The carrying amounts of cash, accounts receivable, accounts payable, and accrued expenses approximate their fair value due to the short-term nature of those financial instruments. The carrying amount of notes payable approximate their fair value because their stated interest rates approximate the market rates. Common stock warrants, convertible preferred stock warrants, tranche obligations and beneficial conversion features classified as permanent equity are initially recorded at their grant date fair value but are not subsequently remeasured.

Fair value measurements

The Company follows the guidance in Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 820, *Fair Value Measurements and Disclosures*, which defines fair value and establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy are described below:

Level 1 — Quoted prices (unadjusted) in active markets for identical assets or liabilities that the Company can access at the measurement date.

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

3. Summary of Significant Accounting Policies – (continued)

Level 2 — Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. If the asset or liability has a specified (contractual) term, a Level 2 input must be observable for substantially the full term of the asset or liability.

Level 3 — Unobservable inputs for the asset or liability in which there is little, if any, market activity for the asset or liability at the measurement date.

To the extent that valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. Accordingly, the degree of judgment exercised by the Company in determining fair value is greatest for instruments categorized in Level 3. A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement.

Fair value is a market-based measure considered from the perspective of a market participant rather than an entity-specific measure. Therefore, even when market assumptions are not readily available, the Company's own assumptions are set to reflect those that market participants would use in pricing the asset or liability at the measurement date. The Company uses prices and inputs that are current as of the measurement date, including during periods of market dislocation. In periods of market dislocation, the observability of prices and inputs may change for many instruments. This condition could cause an instrument to be reclassified within levels in the fair value hierarchy. There were no transfers within the fair value hierarchy during the years ended December 31, 2015 and 2016.

Research and development

Research and development costs are expensed as incurred. Research and development costs include payroll and personnel expense; consulting costs; external contract research and development expenses; raw materials; drug product manufacturing costs; and allocated overhead, including depreciation and amortization, rent and utilities. Research and development costs that are paid in advance of performance are capitalized as a prepaid expense and amortized over the service period as the services are provided.

Clinical trial costs

Clinical trial costs are a component of research and development expenses. The Company accrues and expenses clinical trial activities performed by third parties based on an evaluation of the progress to completion of specific tasks using data such as patient enrollment, clinical site activation, and other information provided to the Company by its vendors.

Preferred stock

All shares of convertible preferred stock are hereinafter collectively referred to as "preferred stock." Upon a deemed liquidation event, the preferred stock terms permit holders to vote as a single class to either liquidate or redeem their shares. Upon such an election, all of the Company's stockholders, including the common stock holders, will always be entitled to receive the same form of consideration. As a result, the Company's preferred stock meets the limited exception allowed for shares containing such liquidation rights to be classified as permanent equity.

In anticipation of the Acquisition, all shares of the preferred stock outstanding as of the acquisition date were converted into the Company's common stock (Note 1). As of December 31, 2016, outstanding preferred stock consists of Series B convertible preferred stock issued pursuant to the Stock Purchase Agreement (Note 1).

Warrants

The Company issued common stock warrants to investors under the Stock Purchase Agreement.

The common stock warrants and convertible preferred stock warrants were issued to common and preferred warrant holders as an inducement to exercise their then-outstanding warrants. The Company also

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

3. Summary of Significant Accounting Policies – (continued)

issued common stock warrants to the guarantors of the Company's revolving line of credit and in connection with the Stock Purchase Agreement. Common stock warrants and convertible preferred stock warrants are classified as a component of permanent equity because they are freestanding financial instruments that are legally detachable and separately exercisable from other debt and equity instruments, are contingently exercisable, do not embody an obligation for the Company to repurchase its own shares, and permit the holders to receive a fixed number of common shares upon exercise. In addition, such warrants require physical settlement and do not provide any guarantee of value or return. Common stock warrants and convertible preferred stock warrants are initially recorded at their issuance date fair value and are not subsequently remeasured. These warrants were valued using the Black-Scholes option pricing model ("Black-Scholes").

Stock-based compensation

The Company accounts for all stock-based compensation granted to employees and non-employees using a fair value method. Stock-based compensation awarded to employees is measured at the grant date fair value of stock option grants and is recognized over the requisite service period of the awards, usually the vesting period, on a straight-line basis, net of estimated forfeitures. Stock-based compensation awarded to non-employees are subject to revaluation over their vesting terms. For performance-based awards where the vesting of the options may be accelerated upon the achievement of certain milestones, vesting and the related stock-based compensation is recognized as an expense when it is probable the milestone will be met.

When awards are modified, the Company compares the fair value of the affected award measured immediately prior to modification to its value after modification. To the extent that the fair value of the modified award exceeds the original award, the incremental fair value of the modified award is recognized as compensation on the date of modification for vested awards, and over the remaining vesting period for unvested awards.

The Company reduces recorded stock-based compensation for estimated forfeitures. To the extent that actual forfeitures differ from the Company's estimates, the differences are recorded as a cumulative adjustment in the period the estimates were adjusted. Stock-based compensation expense recognized in the financial statements is based on awards that are ultimately expected to vest.

Income taxes

The Company accounts for income taxes using an asset and liability approach for financing reporting purposes. Deferred tax assets and liabilities represent future tax consequences of temporary differences between the financial statement carrying amounts and the tax basis of assets and liabilities and for loss carryforwards using enacted tax rates expected to be in effect in the years in which the differences reverse. A valuation allowance is established when it is more likely than not that some or all of the deferred tax assets will not be realized.

The Company determines whether it is more likely than not that a tax position will be sustained upon examination. If it is not more likely than not that a position will be sustained, none of the benefit attributable to the position is recognized. The tax benefit to be recognized for any tax position that meets the more-likely-than-not recognition threshold is calculated as the largest amount that is more than 50% likely of being realized upon resolution of the contingency. The Company accounts for interest and penalties related to uncertain tax positions as part of its provision for income taxes. To date, the Company has not incurred interest and penalties related to uncertain tax positions. Should such costs be incurred, they would be classified as a component of provision for income taxes.

Net loss per share

Basic net loss per share is computed by dividing the net loss attributable to common stockholders by the weighted-average number of common shares outstanding for the period without consideration for potentially dilutive securities. Net loss attributable to common stockholders and participating preferred stock is allocated

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

3. Summary of Significant Accounting Policies – (continued)

to each share on an as-converted basis as if all of the net loss for the period had been distributed. During periods in which the Company incurred a net loss, the Company does not allocate net loss to participating securities because they do not have a contractual obligation to share in the net loss of the Company.

The Company computes diluted net loss per common share after giving consideration to all potentially dilutive common equivalents, including convertible preferred stock, common stock options, restricted stock awards, and common stock warrants outstanding during the period except where the effect of such non-participating securities would be antidilutive.

Diluted net loss per share is computed by dividing the net loss attributable to common stockholders by the weighted-average number of common shares and dilutive common stock equivalents outstanding for the period determined using the treasury-stock and if-converted methods.

Contingent liabilities

The Company accounts for its contingent liabilities in accordance with FASB ASC No. 450, *Contingencies*. A provision is recorded when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. With respect to legal matters, provisions are reviewed and adjusted to reflect the impact of negotiations, estimated settlements, legal rulings, advice of legal counsel and other information and events pertaining to a particular matter. The Company is a party to certain litigation and disputes arising from its normal course of business. As of December 31, 2015 and 2016, the Company does not expect that such matters will have a material adverse effect on the Company's business, financial position, results of operations, or cash flows.

Deferred rent

Rent expense from operating leases is recognized on a straight-line basis over the lease term. The difference between rent expense recognized and rental payments is recorded as deferred rent in the accompanying consolidated balance sheets.

Deferred offering costs

Direct and incremental legal and accounting costs associated with the Company's proposed initial public offering are deferred and classified as a component of other assets in the accompanying consolidated balance sheets. Such costs will be offset against the proceeds received in the offering. If the proposed initial public offering is no longer probable of occurring, the deferred costs will be expensed at that time. During the year ended December 31, 2016, the Company abandoned the proposed initial public offering and expensed $2,562,377 of deferred offering costs. The write off of the deferred offering costs is classified as a component of general and administrative expenses.

Preferred stock subscription

Preferred stock subscription represents cash received in advance of Series B convertible preferred stock issuance. The amounts received are classified as a component of long-term liabilities in the accompanying consolidated balance sheets and was reclassified in stockholders' equity upon the close of the financing transaction.

Recently issued accounting pronouncements

In May 2014, FASB issued Accounting Standards Update ("ASU") No. 2014-09, *Revenue from Contracts with Customers* ("ASU 2014-09"), as amended, which amends the guidance for revenue recognition to replace numerous industry specific requirements. ASU 2014-09, as amended, implements a five-step process for customer contract revenue recognition that focuses on transfer of control, as opposed to transfer of risk and rewards. ASU 2014-09, as amended, also requires enhanced disclosures regarding the nature, amount, timing, and uncertainty of revenues and cash flows from contracts with customers. Other

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

3. Summary of Significant Accounting Policies – (continued)

major provisions include ensuring the time value of money is considered in the transaction price, and allowing estimates of variable consideration to be recognized before contingencies are resolved in certain circumstances. ASU 2014-09, as amended, is effective for reporting periods beginning after December 15, 2017. Early adoption is permitted, but not before December 15, 2016. Entities can transition to the standard either retrospectively or as a cumulative-effect adjustment as of the date of adoption. The Company is currently in the process of evaluating the effect the adoption of ASU 2014-09, as amended, may have on its financial statements. The Company does not expect the adoption of ASU 2014-09, as amended, will have a material impact on its financial statements.

In February 2016, FASB issued ASU No. 2016-02, *Leases* ("ASU 2016-02"). ASU 2016-02 requires a lessee to separate the lease components from the non-lease components in a contract and recognize in the statement of financial position a liability to make lease payments (the lease liability) and a right-of-use asset representing its right to use the underlying asset for the lease term. It also aligns lease accounting for lessors with the revenue recognition guidance in ASU 2014-09. ASU 2016-02 is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, and is to be applied at the beginning of the earliest period presented using a modified retrospective approach. The Company does not expect the adoption of ASU 2016-02 will have a material impact on its financial statements.

In January 2017, the FASB issued ASU No. 2017-04, *Simplifying the Test for Goodwill Impairment* ("ASU 2017-04"), which removes the second step of the two-step goodwill impairment test. Under ASU 2017-04, an entity will apply a one-step quantitative test and record the amount of goodwill impairment as the excess of a reporting unit's carrying amount over its fair value, not to exceed the total amount of goodwill allocated to the reporting unit. ASU 2017-04 does not amend the optional qualitative assessment of goodwill impairment. Additionally, an entity should consider income tax effects from any tax-deductible goodwill on the carrying amount of the reporting unit when measuring the goodwill impairment loss, if applicable. ASU 2017-04 is effective for annual or any interim goodwill impairment tests in fiscal years beginning after December 15, 2019; early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The Company does not expect the adoption of ASU 2017-04 will have a material impact on its financial statements.

4. Net Loss Per Share

Because the Company has reported a net loss attributable to common stockholders for both years presented, basic and diluted net loss per share attributable to common stockholders are the same for both years. All preferred stock, common stock warrants, preferred stock warrants, stock options, and restricted stock awards have been excluded from the computation of diluted weighted-average shares outstanding because such securities would have an antidilutive impact.

The following table sets forth the computation of basic and diluted net loss per share:

	Year Ended December 31,	
	2015	2016
Numerator:		
Net loss	$(6,648,902)	$(11,086,812)
Less: accumulated dividends on preferred stock	138,555	368,548
Net loss attributable to common stockholders	$(6,787,457)	$(11,455,360)
Denominator:		
Weighted-average common share outstanding, basic and diluted	7,688,651	9,226,376
Net loss per share attributable to common stockholders, basic and diluted	$ (0.88)	$ (1.24)

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

4. Net Loss Per Share – (continued)

Potential common shares issuable upon conversion or exercise of preferred stock, warrants to purchase common or preferred stock, and stock options that are excluded from the computation of diluted weighted-average shares outstanding are as follows:

	Year Ended December 31,	
	2015	2016
Convertible preferred stock	200,001	800,000
Common stock warrants	278,484	817,123
Unvested restricted stock	—	99,513
Common stock options	1,612,617	1,609,812

The unaudited pro forma basic and diluted net loss per share attributable to common stockholders for the year ended December 31, 2016 has been computed using the weighted average common shares outstanding after giving pro forma effect to the automatic conversion of all shares of Class B Common Stock, Series B convertible preferred stock, and the portion of unvested restricted stock subject to accelerated vesting upon a deemed liquidation event into shares of Class A Common Stock as if such conversions had occurred on January 1, 2016 or the date of original issuance, if later.

Unaudited pro forma basic and diluted net income per share for the year ended December 31, 2016 are computed as follows:

Numerator:	
Net loss, basic and diluted	$ (11,086,812)
Denominator:	
Weighted-average common shares outstanding, basic	9,226,376
Adjustment for assumed effect of conversion of preferred stock	612,569
Adjustment for assumed conversion of notes payable and accrued expenses (see Notes 9 and 11)	102,358
Adjustment for assumed accelerated vesting of unvested restricted stock	13,196
Pro forma weighted-average common shares outstanding, basic and diluted	9,954,499
Pro forma net loss per share, basic and diluted	$ (1.11)

Potential common shares issuable upon conversion of warrants to purchase common stock, exercise of stock options, and vesting of unvested restricted stock that are excluded from the computation of diluted pro forma weighted-average common shares outstanding for the year ended December 31, 2016 are as follows:

Common stock warrants	817,123
Common stock options	1,609,812
Unvested restricted stock	46,439

5. Acquisition

On March 10, 2015, pursuant to a share exchange agreement, dated as of February 13, 2015, as amended on March 10, 2015 by and among Altimmune, Immune Targeting Systems (“ITS”), and certain ITS investors, Altimmune acquired all outstanding ordinary shares of ITS. To effect the transaction, on March 10, 2015, (i) each ITS ordinary share was converted into one share of a newly issued Altimmune common stock for a total issuance of 3,873,182 shares of Altimmune Class A Common Stock and 39,123 shares of Altimmune Class B Common Stock, and (ii) each ITS ordinary share option was converted into one Altimmune common stock option of equivalent value.

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

5. Acquisition – (continued)

The following table summarizes the total fair value of consideration transferred:

Class A Common Stock issued to ITS shareholders	3,873,182
Class B Common Stock issued to ITS shareholders	39,123
Common stock options issued to ITS option holders	287,695
Total equity and equivalent securities transferred	4,200,000
Per share common stock fair value as of March 10, 2015	$ 10.00
Fair value per option as of March 10, 2015	$ 9.09
Fair value of Class A Common Stock issued to ITS shareholders	$ 38,731,820
Fair value of Class B Common Stock issued to ITS shareholders	391,230
Fair value of common stock options issued to ITS option holders	2,615,147
Less fair value of common stock options not yet earned	(289,660)
Total fair value of consideration transferred	$ 41,448,537

Since the acquisition date, the Company made $85,286 in purchase price adjustments to goodwill. These purchase price adjustments were reflected in the accompanying unaudited condensed consolidated balance sheets as of December 31, 2015 and 2016.

During the year ended December 31, 2016, the Company finalized the purchase price allocation. A summary of the final allocation is as follows:

Cash assumed	$ 1,602,708
Other current assets	1,774,483
Property and equipment	74,510
Deferred tax assets, net of valuation allowance	3,547,187
IPR&D assets	17,700,000
Goodwill	22,888,430
Total assets acquired	$ 47,587,318
Accounts payable	$ (1,299,612)
Other current liabilities	(749,340)
Deferred tax liabilities	(3,547,187)
Other long-term liabilities	(542,642)
Total liabilities assumed	$ (6,138,781)
Net assets acquired	$ 41,448,537

The Company relied on significant unobservable inputs to estimate the valuation of each of the IPR&D projects using management's estimate of future revenue and expected profitability of the products after taking into account an estimate of future expenses necessary to bring the products to completion. These projected cash flows were then discounted to their present values using a discount rate of 30%, which was considered commensurate with the risks and stages of development of both products.

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

5. Acquisition – (continued)

The following unaudited pro forma information for the year ended December 31, 2015 gives effect to Altimmune's acquisition of ITS as if the Acquisition had occurred on January 1, 2015 (the "Pro Forma Acquisition Date").

Pro forma revenue and grants and contracts	$ 4,711,036
Pro forma net loss	$ (6,443,105)
Pro forma weighted average common shares outstanding, basic and diluted	9,062,276
Pro forma net loss per share, basic and diluted	$ (0.71)

The unaudited pro forma results include adjustments to reflect the: (i) accelerated vesting of ITS ordinary share options as if it occurred on the Pro Forma Acquisition Date immediately prior to being replaced with U.S. common stock options; (ii) stock compensation expense from the vesting of U.S. common stock options replacing the ITS ordinary share options; and (iii) loss on extinguishment of convertible notes as if converted on the Pro Forma Acquisition Date.

6. Property and Equipment, Net

Property and equipment, net consisted of the following:

	December 31,	
	2015	2016
Office furniture and equipment	$ 95,930	$ 106,752
Laboratory equipment	840,234	932,065
Leasehold improvements	44,352	44,352
Property and equipment, at cost	980,516	1,083,169
Less accumulated depreciation and amortization	(854,360)	(905,310)
Property and equipment, net	$ 126,156	$ 177,859

Depreciation expense for the years ended December 31, 2015 and 2016 was $51,629 and $63,109, respectively.

7. Intangible Assets, Net

The Company's intangible assets consisted of the following:

	December 31, 2015			
	Estimated Useful Lives	Gross Carrying Value	Accumulated Amortization	Net Book Value
Internally developed patents	6 – 10 years	$ 528,839	$ (157,260)	$ 371,579
Acquired licenses	16 – 20 years	285,000	(202,260)	82,740
Total intangible assets subject to amortization		813,839	(359,520)	454,319
IPR&D assets	Indefinite	17,366,791	—	17,366,791
Total		$ 18,180,630	$ (359,520)	$ 17,821,110

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

7. Intangible Assets, Net – (continued)

	December 31, 2016			
	Estimated Useful Lives	Gross Carrying Value	Accumulated Amortization	Net Book Value
Internally developed patents	6 – 10 years	$ 624,454	$ (211,956)	$ 412,498
Acquired licenses	16 – 20 years	285,000	(219,800)	65,200
Total intangible assets subject to amortization		909,454	(431,756)	477,698
IPR&D assets	Indefinite	14,477,019	—	14,477,019
Total		$15,386,473	$ (431,756)	$ 14,954,717

Amortization expense of intangible assets subject to amortization totaled $40,635 and $72,236 for the year ended December 31, 2015 and 2016, respectively, and was classified as research and development expenses in the accompanying consolidated statements of operations and comprehensive loss.

As of December 31, 2016, future estimated amortization expense is as follows:

Year ending December 31,	
2017	$ 47,957
2018	44,247
2019	39,448
2020	26,002
2021	5,442
2022 and thereafter	314,602
Total	$ 477,698

The above future estimated amortization expense does not include potential amortization charges related to the IPR&D assets. Those assets, which represent incomplete technologies, will be amortized to expense once the underlying technologies are substantially complete over their estimated useful lives, expected to be 15 to 18 years. In the event that the Company ceases the development of these assets, the carrying value would be written off at that time. IPR&D assets are periodically assessed for impairment by considering the state of completion of the projects, the remaining activities required to complete development, the anticipated market for the completed products, and anticipated future cash required to complete development.

8. IPR&D and Goodwill

As of December 31, 2016, goodwill represented the excess of the ITS purchase price over the assets and liabilities assumed from the transaction. IPR&D assets and goodwill are reported by Altimmune UK Limited in British pounds. Changes in the carrying amounts of IPR&D assets and goodwill for the years ended December 31, 2015 and 2016 were:

	IPR&D	Goodwill
Balance, January 1, 2015	$ —	$ —
Additions from business combination	17,700,000	22,803,144
Subsequent adjustments during measurement period	—	85,286
Foreign currency translation adjustments	(333,209)	(393,739)
Balance, December 31, 2015	$17,366,791	$ 22,494,691
Foreign currency translation adjustments	(2,889,772)	(3,736,270)
Balance, December 31, 2016	$14,477,019	$ 18,758,421

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

9. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following:

	December 31,	
	2015	2016
Accrued professional services	$ 538,994	$ 689,135
Accrued board of director compensation	523,449	606,199
Accrued payroll and employee benefits	1,087,247	957,719
Accrued interest	181,708	169,790
Accrued other	189,432	549,902
Total	$ 2,520,830	$ 2,972,745

In connection with an Agreement and Plan of Merger (the "Merger Agreement") entered into in January 2017 (see Note 19), certain accrued expenses totaling $827,106 will be converted into the Company's Class A Common Stock upon closing of the Merger. The pro forma effect of the conversion of these accrued expenses into shares of Class A Common Stock as if the conversion occurred on December 31, 2016 is included in the accompanying consolidated balance sheets under the heading "Effect of Pro Forma Adjustments".

10. Licenses

University of Alabama at Birmingham Research Foundation

The Company has an agreement with the University of Alabama at Birmingham Research Foundation ("UABRF") for the exclusive worldwide license to develop, manufacture, and commercialize certain proprietary technology developed at UABRF. Under the terms of the amended and restated agreement, the Company is obligated to pay an annual license fee of $20,000 and royalty fees upon the commencement of product sales. Fees incurred under the UABRF agreement totaled $20,000 in each of the years ended December 31, 2015 and 2016, respectively, and are classified as a component of research and development expenses in the accompanying consolidated statements of operations and comprehensive loss.

Crucell Holland, B.V.

The Company has a royalty-bearing, worldwide non-exclusive license agreement with Crucell for use of its vaccine technology.

Under the agreement, the Company is required to pay an annual license fee and annual royalty fees upon reaching certain milestones in an amount that equals the greater of a low single digit percentage of net sales or $100,000.

In connection with the license agreement, the Company granted Crucell a total of 134,475 shares of its Series A convertible preferred stock at $3.7641 per share, 79,700 shares of its Series A-1 redeemable convertible preferred stock at $4.0778 per share, and warrants to purchase 15,940 shares of Series A-1 redeemable convertible preferred stock at an exercise price of $4.0778 per share. In October 2014, Crucell converted the warrants in a cashless exercise into 5,259 shares of Series A-1 redeemable convertible preferred stock. In connection with the Acquisition, all of the preferred stock held by Crucell was converted into the Company's Class A Common Stock on the acquisition date. Fees incurred under the Crucell agreement totaled $100,000 in each of the year ended December 31, 2015 and 2016, and are included in research and development expenses in the accompanying consolidated statements of operations and comprehensive loss.

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

10. Licenses – (continued)

Auburn University

The Company has an exclusive, world-wide license agreement to develop, manufacture, and commercialize certain vaccine technology developed at Auburn University. Under the agreement, the Company is required to pay an upfront fee of $1,000 upon signing of the agreement, an annual license fee of $5,000, and royalty fees from net product sales or sublicenses of the technology. Fees incurred under the Auburn University agreement totaled $5,000 in each of the years ended December 31, 2015 and 2016, and are included in research and development expenses in the accompanying consolidated statements of operations and comprehensive loss.

11. Notes Payable

The Company's outstanding notes payable are summarized as follows:

	December 31,	
	2015	2016
Economic Development Partnership of Alabama ("EDPA") promissory note	$ 96,496	$ 96,496
SAFC Carlsbad, Inc. ("SAFC") promissory note	79,543	—
Hammond promissory note	100,000	100,000
Line of credit	49,269	49,701
Frommer, Lawrence and Haug LLP ("FLH") promissory note	112,432	112,432
Alex Choi promissory note	100,000	100,000
BPI France notes	545,232	525,950
Total	1,082,972	984,579
Current portion of notes payable	537,740	458,629
Notes payable, long-term portion	$ 545,232	$ 525,950

EDPA Promissory Note

The Company has an unsecured promissory note with EDPA issued in June 2002 with an original due date of June 2004. The note is in default as of December 31, 2015 and 2016. The outstanding balance of $96,496 has been classified as a current liability in the accompanying consolidated balance sheets and interest accrues at 6% per annum, the default rate of interest on the note, compounding annually. Accrued interest totaled $28,500 and $34,121 at December 31, 2015 and 2016, respectively, and is classified as a component of accrued expenses. In May 2015, the lender executed a forbearance letter, extending the repayment of the note and accrued interest until the earlier of completion of the Company's initial public offering ("IPO") or December 31, 2016. The promissory note will continue to accrue interest at the stated interest rate through the final repayment date. Interest expense on the note was $5,621 in 2015 and 2016. In connection with the Merger Agreement (see Note 19), all outstanding principal and accrued interest will be converted into the Company's Class A Common Stock upon closing of the merger. The pro forma effect of the conversion of the note and accrued interest into shares of Class A Common Stock as if the conversion occurred on December 31, 2016 is included in the accompanying consolidated balance sheets under the heading "Effect of Pro Forma Adjustments".

SAFC Promissory Note

The Company entered into a non-interest bearing promissory note with SAFC in April 2008 that was due in November 2011 and is secured by certain equipment. The note had a principal balance of $79,543 as of December 31, 2015. In December 2016, the Company settled the note and accrued interest for $81,000. Interest on the note accrued at the default rate of 8.25% per annum on unpaid principal. Accrued interest

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

11. Notes Payable – (continued)

totaled $40,467 at December 31, 2015. Interest expense on the note totaled $6,562 in 2015 and 2016. At December 31, 2016, the pay-off date, the Company recorded a gain of $45,573 as other income related to the settlement of the note.

Hammond Promissory Note

In September 2010, the Company issued an unsecured promissory note to an unrelated party in the amount of $100,000 due in March 2011, which bears interest at 15% per annum on unpaid principal. The note is in default with unpaid principal of $100,000 as of December 31, 2015 and 2016 and has been classified as a current liability in the accompanying consolidated balance sheets. Accrued interest on the loan totaled $79,685 and $94,685 as of December 31, 2015 and 2016, respectively, and is classified in accrued expenses. In May 2015, the lender executed a forbearance letter, extending the repayment of the outstanding principal and interest until the earlier of completion of the Company's IPO or December 31, 2016. The promissory note will continue to accrue interest at the stated interest rate through the final repayment date. Interest expense on the note totaled $15,000 in each of 2015 and 2016. In connection with the Merger Agreement entered into in January 2017 (see Note 19), the outstanding principal will be repaid and the accrued interest converted into the Company's Class A Common Stock upon closing of the merger. The pro forma effect of the conversion of the accrued interest into shares of Class A Common Stock as if the conversion occurred on December 31, 2016 is included in the accompanying consolidated balance sheets under the heading "Effect of Pro Forma Adjustments".

Line of Credit

In January 2015, the Company entered into a secured line of credit agreement with a financial institution that provides for borrowings up to $250,000 and matured in January 2016. In 2016 this credit facility was extended until April 2018. The borrowings are secured by certain assets of the Company. Interest is payable monthly at the financial institution's prime rate (4.0% at December 31, 2015 and 2016) plus 2.0% per annum with a floor of 5.0%. Accrued interest was $254 and $33 as of December 31, 2015 and 2016, respectively, and was classified as a component of accrued expenses. Interest expense for the years ended December 31, 2015 and 2016 totaled $6,312 and $2,956, respectively.

FLH Promissory Note

In October 2011, the Company issued an unsecured, non-interest bearing promissory note to FLH for $279,222 due in June 2016 covering past due amounts payable for professional services rendered to the Company. The loan is payable in minimum monthly installments of $5,000 with $112,432 remain outstanding at December 31, 2015 and 2016. The note is currently in default, and the Company has classified it as notes payable in the current liabilities on the consolidated balance sheets.

Alex Choi Promissory Note

In May 2012, the Company issued an unsecured promissory note to Alex Choi, one of the Company's stockholders, in the amount of $100,000, payable in February 2014. The note bears interest at 6% per annum, compounding annually. The note and accrued interest are currently in default and have been classified as current liabilities in the accompanying consolidated balance sheets. Accrued interest totaled $32,802 and $40,951 at December 31, 2015 and 2016, respectively, and is classified in accrued expenses. In May 2015, the lender executed a forbearance letter, providing for the deferral of repayment until the earlier of a completion of the Company's IPO or December 31, 2016. The note will continue to accrue interest at the stated interest rate through the final repayment date. Interest expense for the years ended December 31, 2015 and 2016 totaled $7,651 and $8,149, respectively. In connection with an Agreement and Plan of Merger (the "Merger Agreement") entered into in January 2017 (see Note 19), all outstanding principal and accrued interest will be converted into the Company's Class A Common Stock upon closing of the merger. The pro forma effect of the conversion of the note and accrued interest into shares of Class A Common Stock as if the conversion occurred on December 31, 2016 is included in the accompanying consolidated balance sheets under the heading "Effect of Pro Forma Adjustments".

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

11. Notes Payable – (continued)

BPI France Notes

Altimmune France has two non-interest bearing research and development funding arrangements with BPI France that were entered into in December 2013 to provide Altimmune France up to €750,000 ($788,925 at December 31, 2016) in research funding in the first arrangement and up to €250,000 ($262,975 at December 31, 2016) in the second arrangement. Altimmune France is permitted to draw 50% of the funds upon the signing of the arrangements, an additional 30% contingent upon a financial audit and technical progress report, and the remaining amounts at the completion of the research and development project being funded by the arrangements. In October 2016, the Company and BPI agreed to extend the term on the arrangement by two years. Each of the two obligations is repayable in sixteen quarterly installments from June 2018 through March 2023. The total amount advanced under the arrangements was €500,000 as of December 31, 2015 and 2016 ($525,950 as of December 31, 2016) and was classified as notes payable, long-term portion on the consolidated balance sheets.

12. Common Stock

As of December 31, 2016, the Company had 9,195,109 outstanding shares of Class A Common Stock. In March 2015, Company amended its certification of incorporation to authorize a total of 19,557,111 shares of capital stock with a par value of $0.01 per share that included 15,610,215 shares of Class A Common Stock, 3,146,896 shares of Class B Common Stock, and 800,000 shares of preferred stock. In connection with the Acquisition (Notes 1 and 5), the Company issued (i) 2,105,834 shares of Class A Common Stock upon the conversion of all outstanding preferred stock, (ii) 1,248,133 shares of Class A Common Stock in lieu of cash payment for accumulated preferred stock dividends, and (iii) 3,873,182 shares of Class A Common Stock and 39,123 shares of Class B Common Stock to ITS ordinary shareholders as purchase consideration.

Also in March 2015 and subsequent to the Acquisition, the Company issued 800,000 shares of its Class A Common Stock at $10.00 per share for total gross proceeds of $8,000,000. The March 2015 financing was the first of five tranches of a committed equity financing pursuant to the Stock Purchase Agreement that enables the Company to raise up to $16,000,000 (see Note 13).

The voting, dividend and liquidation rights of the common stockholders are subject to and qualified by the rights, powers and preferences of the preferred stock. The common stock has the following characteristics:

Voting

Class A common stockholders are entitled to one vote for each share of Class A Common Stock held at all meetings of stockholders. Class B Common Stockholders are not entitled to vote except on matters that affect only Class B Common Stock.

Dividends

Holders of Class A and Class B Common Stock are entitled to receive dividends declared out of funds legally available, subject to the payment in full of all preferential dividends to which the holders of preferred stock, if any, are entitled.

Liquidation preference

In the event of any voluntary or involuntary liquidation, dissolution, or winding up of the Company, after the payment of all preferential amounts that the holders of preferred stock are entitled, if any, the holders of Class A and Class B Common Stock share ratably in the remaining assets of the Company available for distribution, as if Class B Common Stock have converted into Class A Common Stock.

Mandatory conversion

Each share of Class B Common Stock will automatically be converted into one share of Class A Common Stock upon the completion of an underwritten public offering. The pro forma effect of the automatic conversion of the Class B Common Stock into shares of Class A Common Stock, as if the automatic

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

12. Common Stock – (continued)

conversion occurred on December 31, 2016, is included in the accompanying consolidated balance sheets under the heading "Effect of Pro Forma Adjustments."

Special mandatory conversion

If any Class A common stockholder fails to purchase all securities that the stockholder has agreed to purchase pursuant to the Stock Purchase Agreement (Note 13), a corresponding percentage of Class A Common Stock shares previously purchased by such stockholder pursuant to the Stock Purchase Agreement will automatically be converted into non-voting Class B Common Stock.

As of December 31, 2016, the following shares of Class A Common Stock are available for future issuance:

Conversions of Class B common stock	38,836
Conversions of convertible preferred stock	800,000
Unvested restricted stock	99,513
Exercises or conversions of common stock warrants	817,123
Exercises of stock options	1,609,812
Shares available for future stock incentive plan awards	910,626
Total	4,275,910

13. Preferred Stock

As of December 31, 2016, the Company had issued and outstanding 800,000 shares of Series B convertible preferred stock.

Under the terms of the Stock Purchase Agreement, on January 12, 2016, April 8, 2016 and August 19, 2016 the Company issued 199,999, 200,001 and 199,999 shares of its $0.01 par value, Series B convertible preferred stock at $10.00 per share, respectively. The Company received total gross proceeds of $1,999,990, $2,000,010 and $1,999,990 on the same respective dates. In addition, in connection with the January, April and August closings, an aggregate of 179,547, 179,546 and 179,546, respectively, common stock warrants became exercisable at an exercise price of $0.01 per share (Note 14).

The rights, preferences, and privileges of preferred stock are summarized below:

Voting

Holders of preferred stock have full voting rights and powers similar to the rights and powers of the common stockholders on an as-converted basis. Certain significant actions, including board size, election of four members of the board, mergers, acquisition, liquidation, dissolution, winding up of business, and deemed liquidation events, must be approved by at least 65% of preferred stockholders voting as a single class on an as-converted basis.

Dividends

Preferred stock holders are entitled to dividends when and if declared by the Company's board of directors. In the event of liquidation, dissolution, or winding up of business, holders of preferred stock are entitled to receive unpaid accrued dividends, whether or not declared by the board of directors. Preferred stock dividends are to be calculated daily and accrued on a cumulative basis. Series B convertible preferred stock accrues dividends at $0.60 per share, per year, and votes together with Class A Common Stock as a single class on an as-converted basis. The total dividends accrued is $18,082 and $386,630 as of December 31, 2015 and 2016, respectively.

Optional conversion

Series B convertible preferred stock is convertible into shares of Class A Common Stock at the holders' option at any time at a conversion price of $10.00 per share.

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

13. Preferred Stock – (continued)

Mandatory conversion

Series B convertible preferred stock is automatically converted into Class A Common Stock upon an initial public offering on a one-to-one ratio.

Special mandatory conversion

Under the Stock Purchase Agreement, the investors agreed to purchase the number of designated preferred shares in each of the tranches. In the event any investor fails to purchase all securities that the investor agreed to purchase pursuant to the Stock Purchase Agreement, a corresponding percentage of the investor's shareholdings, including Series B convertible preferred stock, Class A Common Stock, and warrants previously purchased by such investor will automatically be converted into non-voting Class B Common Stock or Class B common stock warrants at a one-to-one conversion ratio.

Liquidation preference

Upon a liquidation event, as defined in the Company's certificate of incorporation, Series B convertible preferred stock has a liquidation preference in priority to holders of Class A and Class B Common Stock at $10.00 per share plus unpaid accrued dividends, whether or not declared, and any other declared but unpaid dividends. If assets available for distribution are insufficient to satisfy the liquidation payment amounts in full, assets available for distribution will be allocated among preferred stock holders ratably based on their shareholding. When preferred stockholders are satisfied in full, any excess assets available for distribution will be allocated ratably among holders of preferred stock and common stock based on the number of common stock shares held by each holder on an as-converted basis.

A change-in-control merger or a sale of all or substantially all of the Company's assets will be treated as deemed liquidation events upon the election by 65% of the Series B convertible preferred stockholders on an as-converted basis, or if a change-in-control merger or a sale of all or substantially all of the Company's assets is exchanged for cash or marketable securities. Upon a deemed liquidation event, all equity holders, including the common stockholders, will be paid in the same manner and form subject to their liquidation preferences.

Tranche obligations

The stockholders' rights and obligations to participate in future tranches under the Stock Purchase Agreement became effective upon the March 2015 Class A Common Stock issuance. These tranche obligations have been determined to be freestanding financial instruments because they are legally detachable and separately exercisable from the equity issuance. Because the tranche obligations are indexed to, and settled in, the Company's own shares that are classified as permanent equity, they are initially recorded at their allocated fair value using a relative allocation method, and are not subsequently remeasured as long as they continue to be classified in permanent equity. As of December 31, 2015, tranche obligations totaling $1,176,627 was classified as a component of additional paid-in capital. A portion of the carrying value of the tranche obligations was released and reclassified as a component of the issued shares at each tranche. As of December 31, 2016, all shares issuable under the Stock Purchase Agreement had been issued and there was no remaining tranche obligation outstanding.

Beneficial conversion feature

The Company has recognized the intrinsic value of a beneficial conversion feature in connection with the Series B preferred stock issuances. The conversion feature was "in-the-money" as of the commitment date where the fair value of the conversion feature, measured using Level 3 inputs, was greater than the effective preferred stock conversion price after allocating the issuance proceeds among the preferred stock, the corresponding tranche obligation, and the warrants using the relative allocation method. The beneficial conversion feature associated with the Series B preferred stock issuances totaled $2,192,062, and is classified as permanent equity as a component of additional paid-in capital. The beneficial conversion feature is not remeasured in subsequent periods. Upon the conversion of Series B convertible preferred stock into Class A Common Stock, the beneficial conversion feature will be released and reclassified as a component of Class A Common Stock.

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

14. Stock-Based Compensation

Stock options

In December 2001, the Company's board of directors approved the 2001 Employee Stock Option Plan to provide incentive stock options and non-qualified stock options to employees, and the 2001 Non-employee Stock Option Plan to provide non-qualified stock options to the members of the board of directors and advisory board, and non-employees. The 2001 Employee Stock Option Plan and the 2001 Non-employee Stock Option Plan are collectively referred to as the "2001 Plans." Under the 2001 Plans, a total of 2,690,990 shares of Class A Common Stock were authorized for issuance. As of December 31, 2016, options to purchase 170,552 shares of common stock have been exercised to date with 910,626 shares available for future grants.

The fair value of each stock option issued to employees was estimated at the date of grant using Black-Scholes with the following weighted-average assumptions:

	Year Ended December 31,	
	2015	2016
Expected volatility	82.00%	76.50%
Expected term (years)	6.25	6.25
Risk-free interest rate	1.79%	2.18%
Expected dividend yield	0.00%	0.00%

Exercise price: In determining the exercise prices for stock options granted, the board of directors considered the fair value of common stock as of each grant date based upon a variety of factors, including the results obtained from independent third-party valuations, the Company's financial position and historical financial performance, the status of technological developments within the Company's products, the composition and ability of the current clinical and management team, an evaluation or benchmark of the Company's competition, the current business climate in the marketplace, the illiquid nature of common stock, arm's length sales of the Company's capital stock, the effect of the rights and preferences of the preferred stockholders, and the prospects of a liquidity event, among others.

Expected volatility: As the Company is privately held, there is not sufficient historical volatility for the expected term of the stock options. Therefore, the Company uses an average historical share price volatility based on an analysis of reported data for a peer group of comparable companies which were selected based upon industry similarities.

Expected term (years): Expected term represents the number of years that the Company's option grants are expected to be outstanding. There is not sufficient historical share exercise data to calculate the expected term of the stock options. Therefore, the Company elected to utilize the simplified method to value option grants. Under this approach, the weighted average expected life is presumed to be the average of the vesting term and the contractual term of the option.

Risk-free interest rate: The Company determined the risk-free interest rate by using a weighted-average equivalent to the expected term based on the daily U.S. Treasury yield curve rate in effect as of the date of grant.

Expected dividend yield: The Company does not anticipate paying any dividends in the foreseeable future.

Forfeitures: Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from estimates.

The fair value of each non-employee stock option is estimated at the date of grant using Black-Scholes with assumptions generally consistent with those used for employee stock options, with the exception of expected term, which is over the contractual life.

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

14. Stock-Based Compensation – (continued)

A summary of stock option activities under the 2001 Plans is presented below:

	Number of Stock Options	Weighted-average Exercise Price	Weighted-average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding, January 1, 2016	1,612,617	$ 2.09	6.04	$ 13,508,791
Granted	145,500	10.02		
Exercised	(1,395)	0.41		$ 10,273
Forfeited/Expired	(146,910)	0.83		
Outstanding, December 31, 2016	1,609,812	$ 2.93	5.79	$ 8,475,032
Exercisable, December 31, 2016	1,332,377	$ 1.62	5.14	$ 8,311,824
Vested and expected to vest, December 31, 2016	1,582,607	$ 2.82	5.71	$ 8,462,576

The per share weighted-average grant date fair value of stock options granted during the years ended December 31, 2015 and 2016 were $8.05 and $6.68, respectively. The exercise prices of stock options exercised during the year ended December 31, 2015 exceeded their fair value on the exercise dates and therefore had no intrinsic value. At December 31, 2016, there was $1,745,356 of unrecognized compensation cost related to stock options, which is expected to be recognized over a weighted-average period of 2.61 years.

Restricted stock

In October 2016, the Company authorized and granted a restricted stock award of 106,147 shares at an aggregate purchase price of $1,067. The weighted average grant date fair value of the restricted stock award was $7.76 per share.

The restricted stock vests ratably at the end of each quarter over four years starting on December 31, 2016. Fair value of restricted shares that vested during the year ended December 31, 2016 totaled $51,480. Under certain conditions, the Company has the right to repurchase any unvested shares at a price of $0.01 per share. Accordingly, the aggregate repurchase price is recorded as a long-term liability to be amortized over the vesting period with the amortization classified as a component of additional paid-in capital.

A summary of restricted stock activities is presented below:

	Shares	Weighted-average Grant Date Fair Value	Restricted Stock Repurchase Liability
Unvested, January 1, 2016	—	$ —	$ —
Granted	106,147	7.76	1,067
Vested	(6,634)	7.76	(66)
Unvested, December 31, 2016	99,513	$ 7.76	1,001

As of December 31, 2016, total unrecognized compensation expense related to restricted stock awards was $636,996, which the Company expects to recognize over a weighted average period of approximately 3.75 years.

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

14. Stock-Based Compensation – (continued)

Stock-based compensation expense for all stock options and restricted stock awards is classified in the consolidated statements of operations and comprehensive loss as follows:

	Year Ended December 31,	
	2015	2016
Research and development	$ 225,167	$ 299,398
General and administrative	720,291	665,967
Total	$ 945,458	$ 965,365

15. Warrants

The following common stock warrants were outstanding at December 31, 2016:

Issued in Connection With	Number of Common Stock Warrants	Per Share Exercise Price	Issuance Date	Expiration Date
Loan guarantee	49,469	$ 0.06	October 10, 2011	October 10, 2021
Loan guarantee	49,469	0.06	October 10, 2011	October 10, 2021
Series B convertible preferred stock issuance	97,850	0.01	November 6, 2015	November 6, 2020
Series B convertible preferred stock issuance	38,156	0.01	November 6, 2015	November 6, 2020
Series B convertible preferred stock issuance	43,540	0.01	November 6, 2015	November 6, 2020
Series B convertible preferred stock issuance	97,851	0.01	January 12, 2016	November 6, 2020
Series B convertible preferred stock issuance	38,155	0.01	January 12, 2016	November 6, 2020
Series B convertible preferred stock issuance	43,541	0.01	January 12, 2016	November 6, 2020
Series B convertible preferred stock issuance	97,850	0.01	April 8, 2016	November 6, 2020
Series B convertible preferred stock issuance	38,156	0.01	April 8, 2016	November 6, 2020
Series B convertible preferred stock issuance	43,540	0.01	April 8, 2016	November 6, 2020
Series B convertible preferred stock issuance	97,850	0.01	August 19, 2016	November 6, 2020
Series B convertible preferred stock issuance	81,696	0.01	August 19, 2016	November 6, 2020
Total	817,123			

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

15. Warrants – (continued)

A summary of warrant activity during the year ended December 31, 2015 and 2016 is as follows:

	Common Stock Warrants	Convertible Preferred Stock Warrants
Warrants outstanding, January 1, 2015	108,981	30,612
Grants	179,546	—
Conversions	30,612	(30,612)
Exercises	(27,073)	—
Forfeitures/Expirations	(13,582)	—
Warrants outstanding, December 31, 2015	278,484	—
Grants	538,639	—
Warrants outstanding, December 31, 2016	817,123	—

16. Income Taxes

Reconciliation between the effect of applying the federal statutory rate and the effective income tax rate used to calculate the Company's income tax provision is as follows:

	Year Ended December 31,	
	2015	2016
Federal statutory rate	34.00%	34.00%
State income taxes, net of federal benefit	2.66	3.51
Foreign income tax rate differential	(7.28)	(3.50)
Stock compensation	(2.19)	(0.18)
Acquisition expenses	(4.85)	(2.05)
Permanent differences and other	(0.95)	(6.34)
Change in valuation allowance	(21.39)	(25.44)
Effective tax rate	0.00%	0.00%

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income and for tax carryforwards. Significant components of the Company's deferred tax assets and liabilities are as follows:

	December 31,	
	2015	2016
Deferred tax assets:		
Domestic net operating loss carryforwards ("NOLs")	$ 4,290,164	$ 6,761,452
Foreign NOLs	4,818,775	4,094,141
Accrued expenses	652,287	793,148
Amortization	285,210	254,990
Deferred revenue	271,481	78,565
Stock compensation	254,154	561,749
Deferred rent	15,456	11,954
Depreciation	—	(6,081)
Total deferred tax assets	10,587,523	12,549,918

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

16. Income Taxes – (continued)

	December 31,	
	2015	2016
Deferred tax liabilities:		
Depreciation	(1,237)	—
Amortization	(3,126,022)	(2,607,364)
Prepaid expenses	(67,100)	(54,549)
IRC §481(a) adjustment	(64,389)	(32,194)
Total deferred tax liabilities	(3,258,748)	(2,694,107)
Deferred tax assets, net	7,328,775	9,855,811
Valuation allowance	(7,328,775)	(9,855,811)
Total deferred taxes	$ —	$ —

As of December 31, 2015 and 2016, the Company had a valuation allowance of $7,328,775 and $9,855,811, respectively, against its deferred tax assets, which consisted primarily of NOLs. The Company believes that, based on a number of factors, the available objective evidence creates sufficient uncertainty regarding the ability of the Company to realize the value of the deferred tax assets such that a full valuation allowance was required. Accordingly, a full valuation allowance has been provided against its U.S. net deferred tax assets. The valuation allowance increased $2,527,036 in 2016 primarily as a result of an increase in cumulative U.S. losses and foreign net operating losses. The Company continues to monitor the positive and negative evidence to support the ability to realize its deferred tax assets.

At December 31, 2016, the Company had U.S. federal NOLs totaling approximately $18,032,614, which included a windfall benefit of $339,441 from stock option exercises, that will begin to expire in 2020, and U.S. state NOLs of approximately $11,916,361 that will begin to expire in 2031. Also at December 31, 2016, NOLs for the Company's UK subsidiary and France subsidiary totaled $21,563,404 and $638,184, respectively, which do not expire as long as the UK and France subsidiaries continue to engage in the same trade or business. Under Section 382 of the Internal Revenue Code of 1986, as amended, substantial changes in the Company's ownership may limit the amount of NOLs that can be utilized annually in the future to offset its U.S. federal and state taxable income. Specifically, this limitation may arise in the event of a cumulative change in ownership of the Company of more than 50% within any three-year period. The amount of the annual limitation is determined based on the value of the Company immediately before the ownership change. Subsequent ownership changes may further affect the limitation in future years. The Company believes that as of December 31, 2016, there was no material limitation on its ability to utilize NOLs and other tax attributes in the future.

As of December 31, 2015 and 2016, the Company does not have any material unrecognized tax benefits. The Company files income tax returns in the United States, various U.S. states, UK, and France. The Company is still open to examination by the applicable taxing authorities from 2009 forward, although tax attributes that were generated prior to 2009 may still be adjusted upon examination by federal, state, foreign, or local tax authorities if they either have been or will be used in a future period.

17. Commitments and Contingencies

See Note 10 for the Company's commitments under license agreements.

Leases

The Company rents office and laboratory space in the U.S. under non-cancelable operating leases, which expire at various dates through October 2018. The leases require a security deposit of $22,248. The Company also leases office equipment under a non-cancellable equipment lease through June 2019. In addition, the Company rents office and laboratory spaces in the UK and France under month-to-month arrangements that may be terminated by either the Company or the lessors at any time. Rent expense was $347,341 and

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

17. Commitments and Contingencies – (continued)

$352,559 for the years ended December 31, 2015 and 2016, respectively. Deferred rent resulting from rent escalation totaled $39,178 and $30,302 at December 31, 2015 and 2016, respectively.

Future minimum lease payments for non-cancelable operating leases at December 31, 2015 are as follows:

Year ending December 31,	
2017	$ 190,312
2018	162,691
2019	435
Total	$ 353,438

Litigation and dispute

Dr. De-Chu Tang, the Company's former Vice-President of Research, is a plaintiff in litigation against the Company and Mr. Enright, its CEO.

In November 2001, Dr. Tang signed an agreement, which provided that the Company was, and would be, the sole and exclusive owner of all the Company's intellectual property, and assigned to the Company any intellectual property developed by Dr. Tang while employed at the Company. During the period of Dr. Tang's employment with the Company, Dr. Tang assisted in the development of a vaccine technology called DVD, which technology constitutes part of the Company's RespirVec platform. Between June 2009 and November 2010, the Company lacked sufficient funds to pay Dr. Tang's full salary. As a result, the Company and Dr. Tang agreed to defer payment of part of his salary until funds became available. In March 2012, Dr. Tang's employment was terminated for performance-related reasons.

In February 2013, Dr. Tang filed a complaint in the U.S. District Court of the Northern District of Alabama against the Company and Mr. Enright, alleging race discrimination, breach of contract, unjust enrichment, False Claims Act, or FCA, violations, retaliation under the FCA, fraud and breach of fiduciary duty. Dr. Tang sought unpaid reimbursable expenses, unpaid deferred salary, rights to the DVD patent rights and other unspecified damages. In March 2015, the court dismissed with prejudice Dr. Tang's claim of an FCA violation against the Company and Mr. Enright, and Dr. Tang's claim of retaliation under the FCA against Mr. Enright. The court dismissed without prejudice the remaining claims of retaliation against the Company and the claims of fraud and breach of fiduciary duty and granted Dr. Tang leave to amend his complaint to re-plead these claims.

On April 14, 2015, Dr. Tang filed a second amended complaint, re-asserting his claims for fraud, unpaid deferred salary and the rights to the DVD patent rights, and new claims of breach of fiduciary duty and wrongful termination. On May 8, 2015, the Company and Mr. Enright filed a response admitting liability for payment of the unpaid deferred salary, but moving to dismiss all of the other claims. At a hearing on August 11, 2015, the court indicated that it would dismiss all of Dr. Tang's claims except for his invasion of privacy claim and his claim for rights to the DVD patent application. An order has not yet been entered on this motion. At that same hearing, the Court also stated that it would likely enter a summary judgment on the claim for the DVD patent application rights. Based on this statement, a motion for a summary judgment on this claim was filed on October 9, 2015.

On March 9, 2016, the court dismissed the claims in Dr. Tang's second amended complaint for fraud, breach of fiduciary duty and wrongful termination, and granted summary judgment in favor of the defendants with respect to Dr. Tang's claim for the DVD patent rights, leaving only Dr. Tang's claim for unpaid deferred salary and unreimbursed expenses outstanding. The unpaid deferred salary of $47,222, unreimbursed expenses of $4,021 and the related interest expense of $10,278 were paid in full in November 2015.

ALTIMMUNE, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

17. Commitments and Contingencies – (continued)

On August 7, 2016, the Company and Dr. Tang entered into a confidential settlement agreement and general release. The Company believes that this agreement amicably resolves all issues and claims from this litigation and counter suits. In addition, on August 25, 2016, the court issued a consent judgement and permanent injunction in favor of the Company.

Other contingencies

The Company is a party in various other contractual disputes, litigation, and potential claims arising in the ordinary course of business. The Company does not believe that the resolution of these matters will have a material adverse effect on its financial position or results of operations.

18. Employee Benefit Plans

The Company has a 401(k) retirement plan in which substantially all of its U.S. employees are eligible to participate. Eligible employees may elect to contribute up to the maximum limits, as set by the Internal Revenue Service, of their eligible compensation. During 2015 and 2016, the Company made discretionary plan contributions of $56,678 and $73,024, respectively.

19. Subsequent Events

On January 18, 2017, PharmAthene, Inc., a Delaware corporation (“PharmAthene”), its wholly owned acquisition subsidiaries Mustang Merger Sub Corp I Inc. and Mustang Merger Sub II LLC (collectively, the “Merger Subs”) agreed to acquire 100% of the outstanding capital stock of the Company in a reverse triangular merger and reorganization pursuant to section 368(a) of the Internal Revenue Code (the “Merger”), pursuant to the Merger Agreement. Consummation of the Merger is subject to the satisfaction or waiver of customary closing conditions, including, among other things, obtaining the requisite approvals of the stockholders of PharmAthene and the Company, including the approval of the charter amendments by PharmAthene’s stockholders, PharmAthene having a minimum level of cash of $10.25 million at the time of closing, the completion of a private placement by the Company of at least $3.5 million of gross proceeds prior to closing, a reverse stock split in a manner to be determined prior to closing, and the effectiveness of a registration statement on Form S-4 relating to the shares of PharmAthene common stock to be issued to the Company’s stockholders pursuant to the Merger Agreement. The Merger is anticipated to close during the second quarter of 2017.

As a condition for the Merger, in January 2017, the Company entered into an irrevocable agreement for the private placement of convertible promissory notes due February 2018 (the “Notes”). The Notes include an aggregate amount of $196,496 converting from certain notes payable that were outstanding at December 31, 2016 (Note 11) and certain accrued expenses totaling $827,106 that were outstanding at December 31, 2016 (Note 9). The Notes are automatically convertible into shares of the Company’s Class A common stock upon closing of the Merger, or into (i) securities issued by the Company in a subsequent financing, (ii) shares of the Company’s common stock issued in a public offering, or (iii) shares of the Company’s Series B preferred stock, depending on timing and occurrence of certain events. An initial tranche of $3.6 million will close and fund before the Mergers. The closing and funding of the second tranche of $5.0 million is conditioned upon certain events, but no later than 135 days after the effective date of the Merger or 10 days after the termination of the Merger Agreement. In connection with the Notes, the Company issued warrants to purchase 66,447 shares of the Company’s common stock, with an exercise price of $0.01 per share. The warrants will be classified as permanent equity.

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

INDEPENDENT AUDITOR'S REPORT

Board of Directors
Altimmune UK Limited
London, United Kingdom

We have audited the accompanying consolidated financial statements of Altimmune UK Limited (formerly Vaxin UK Limited and Immune Targeting Systems (ITS) Limited), and its subsidiary which comprise the consolidated balance sheets as of November 30, 2014 and 2013, and the related consolidated profit and loss accounts, consolidated statements of total recognised gains and losses for the years then ended, and the notes to the consolidated financial statements.

Management's responsibility for the financial statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable law); this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Altimmune UK Limited and its subsidiary as of November 30, 2014 and 2013, and the results of their operations for the years then ended in accordance with United Kingdom Generally Accepted Accounting Practice.

Emphasis of Matter Regarding Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As described in Note 1 to the consolidated financial statements, the Company has suffered recurring losses from operations and has a net shareholders' deficit that raises substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty. Our opinion is not modified with respect to this matter.

Emphasis of Matter — accounting framework

United Kingdom Generally Accepted Accounting Practice varies in certain significant respects from accounting principles generally accepted in the United States of America. Information relating to the nature and effect of such differences is presented in Note 19 to the consolidated financial statements.

/s/ BDO LLP

London, United Kingdom
November 6, 2015

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

CONSOLIDATED PROFIT AND LOSS ACCOUNTS
Years Ended 30 November 2013 and 2014

	Note	2013 £	2014 £
TURNOVER	1	—	816,664
Research and development expenses		(4,239,113)	(5,541,701)
Administrative expenses		(927,559)	(943,725)
Other operating income	3	780,547	1,676,865
OPERATING LOSS	2	(4,386,125)	(3,991,897)
Interest receivable and similar income	4	6,523	3,702
Interest payable and similar charges	6	(2,363,744)	(2,704,511)
LOSS ON ORDINARY ACTIVITIES BEFORE TAXATION		(6,743,346)	(6,692,706)
Tax benefit on loss on ordinary activities	7	526,092	533,541
LOSS FOR THE FINANCIAL YEAR		(6,217,254)	(6,159,165)

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

CONSOLIDATED STATEMENT OF TOTAL RECOGNISED GAINS AND LOSSES
Years Ended 30 November 2013 and 2014

	Note	2013 £	2014 £
Loss for the financial year		(6,217,254)	(6,159,165)
Exchange difference on re-translation of net assets of subsidiary undertaking		(84)	(195)
Total recognised gains and losses related to the financial year	14	(6,217,338)	(6,159,360)

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

CONSOLIDATED BALANCE SHEETS
Years Ended 30 November 2013 and 2014

	Note	2013 £	2014 £
ASSETS EMPLOYED:			
FIXED ASSETS			
Tangible assets	8	72,596	56,209
		72,596	56,209
CURRENT ASSETS			
Debtors	9	1,054,050	2,133,305
Cash at bank and in hand		1,447,449	1,324,830
		2,501,499	3,458,135
CREDITORS: amounts falling due within one year	10	(7,868,827)	(1,685,769)
NET CURRENT (LIABILITIES)/ASSETS		(5,367,328)	1,772,366
TOTAL ASSETS LESS CURRENT LIABILITIES		(5,294,732)	1,828,575
FUNDED BY:			
CREDITORS: amounts falling due after one year	11	14,678,011	23,966,349
CAPITAL AND RESERVES			
Called up share capital	12	23,451	23,820
Share premium account	13	152,561	152,930
Equity reserve	14	5,556,582	8,504,271
Profit and loss account – deficit	14	(25,705,337)	(30,818,795)
SHAREHOLDERS' DEFICIT		(19,972,743)	(22,137,774)
		(5,294,732)	1,828,575

The financial statements of Altimmune UK Limited, were approved by the Board of Directors and authorised for issue on 6 November 2015.

Signed on behalf of the Board of Directors

W J Enright
Director

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

1. ACCOUNTING POLICIES

The particular accounting policies adopted are described below. They have all been applied consistently throughout the current year and preceding year.

Nature of Operations

The principal activity of Altimmune UK Limited and its subsidiary (the "Company" or "Group") is the clinical development of synthetic peptide based therapies to treat chronic infections and cancer, such that they can be commercialised externally.

Basis of accounting

The financial statements have been prepared under the historical cost convention and are in accordance with applicable accounting standards.

These financial statements do not constitute statutory accounts within the meaning of section 434 of Companies Act 2006 in the United Kingdom. The Company prepared the statutory entity only, as permitted by rules and regulations of the Companies Act 2006, financial statements under Generally Accepted Accounting Practice in the United Kingdom ('UK GAAP') for each of the two years ended 30 November 2014, which have each been filed with the Registrar of Companies in the United Kingdom. Those statutory accounts for each of the two years ended 30 November 2014 have been reported on by other auditors acting as the Independent Auditors under applicable law and the International Standards on Auditing (UK and Ireland). The Independent Auditors' Reports on the Annual Reports and Financial Statements for 2013 and 2014 were unqualified, did not draw attention to any matters by way of emphasis, and did not contain a statement under 498(2) or 498(3) of the Companies Act 2006.

Directors' responsibilities

The consolidated financial statements of the Group have been prepared by and are the responsibility of the directors of Altimmune UK Limited. The directors are responsible for preparing the financial statements in accordance with applicable law and regulations. Company law of England and Wales, the country in which the Company is incorporated, requires the directors to prepare financial statements for each financial year. Under that law the directors have elected to prepare the financial statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable law). In preparing these financial statements, the directors are required to select suitable accounting policies and then apply them consistently, make judgements and accounting estimates that are reasonable and prudent and prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Company will continue in business.

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Company's transactions and disclose with reasonable accuracy at any time the financial position of the Company and enable them to ensure that the financial statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Cash flow

The financial statements do not include a cash flow statement because the Company, as a small reporting entity, is exempt from the requirement to prepare such a statement under FRS 1 'Cashflow Statements'.

Going concern

The Group has experienced net losses since inception and as at 30 November 2014 had an accumulated shareholders' deficit of £22,137,774 and a net loss for the year of £6,159,165. As detailed in note 16, the ultimate parent company of Altimmune UK Limited is Altimmune, Inc. The Group and its ultimate parent

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

1. ACCOUNTING POLICIES – (continued)

company (collectively, the 'Altimmune Group') are strongly inter-related and inter-dependent and collectively subject to a number of risks similar to those of other pre-commercial stage companies, including uncertainty of product development and generation of revenues; dependence on outside sources of capital; risks associated with research, development, testing, and obtaining related regulatory approvals of its pipeline products; dependence on third-party manufacturers, suppliers and collaborators; protection of intellectual property; competition with larger, better-capitalized companies; and successful completion of the Group and the Altimmune Group's development programs. Ultimately, the attainment of profitable operations is dependent on future events, including obtaining adequate financing to fulfill its development activities and generating a level of revenues adequate to support the Group and Altimmune Group's cost structure. Since the Group's acquisition by the Altimmune Group (see note 18) on 10 March 2015, the Altimmune Group has secured fresh working capital from external investors, but to meet its future strategic objectives, the Group and Altimmune Group continue to significantly invest in research and development, which requires it to continue to explore alternative sources of capital to meet their ongoing cash needs. The future viability of the Group is dependent on its ability to generate cash from operating activities, to raise additional capital to finance its operations or to make sufficient sales of the Group's products. The Group's failure to raise capital as and when needed could have a negative impact on its financial condition and ability to pursue its business strategies. The consolidated financial statements do not include any adjustments due to this uncertainty relating to the recoverability and classification of recorded asset amounts and classification of liabilities.

The Group has received a letter of support from the ultimate parent company, indicating the intent to support the Group for the foreseeable future. There is a risk that the Altimmune Group is unable to obtain sufficient working capital from external investors, which will prevent the ultimate parent company being able to provide the financial support necessary to support the Group's working capital to cover both operating activities and the repayment of its financing facilities. In such circumstances, the Group and the wider group it is part of, would be obliged to seek additional funding.

These conditions, among others, raise substantial doubt about the Group's ability to continue as a going concern. The accompanying consolidated financial statements have been prepared assuming that the Group will continue as a going concern. This basis of accounting contemplates the recovery of the Group's assets and the satisfaction of liabilities in the normal course of business.

Adequate financing opportunities might not be available to the Group, when and if needed, on acceptable terms or at all. If the Group is unable to obtain additional financing in sufficient amounts or on acceptable terms under such circumstances or if the Altimmune Group is unable to obtain sufficient additional funding on acceptable terms or at all, the Group's operating results and prospects will be adversely affected.

Basis of consolidation

The consolidated financial statements incorporate the results of Altimmune UK Limited and its subsidiary undertaking for all periods presented using the acquisition method of accounting as required. The results of subsidiary undertakings are included from the date of acquisition.

In the consolidated financial statements, merged subsidiary undertakings are treated as if they had always been a member of the Group. The results of such a subsidiary are included for the whole period in the year it joins the group. The corresponding figures for the previous year include its results for that period, the assets and liabilities at the previous balance sheet date and the shares issued by the Company as consideration as if they had always been in issue. Any difference between the nominal value of the shares acquired by the Company and those issued by the Company to acquire them is taken to reserves.

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

1. ACCOUNTING POLICIES – (continued)

The Company's investment in its subsidiary represents 100% of the ordinary shares of Altimmune France SAS (formerly Immune Targeting Systems France SAS), which conducts research and development in other natural sciences. Altimmune France SAS was established during 2012 with 1,500 shares of 1 Euro each.

Turnover

Revenue represents amounts derived from contractual agreements which fall within the Company's ordinary activities. Revenue is recognised to the extent that it is probable that the economic benefits will flow to the group and the revenue can be reliably measured. Revenue is measured at management's best estimate of the consideration receivable, excluding discounts, rebates, and other sales taxes or duty. Revenues from the sale of products are recorded at the time goods were shipped to customers. All revenue was generated in the United Kingdom.

Grant income

Grant income of a revenue nature is credited to the profit and loss account as the related expenditure is incurred, so as to match it with the expenditure to which it is intended to contribute and shown under other operating income.

Grant income of a capital nature is accounted for as either a deduction against the amount of the grant from the purchase price of the related asset, with a consequent reduction in the annual charge for depreciation, or by treating the amount of the grant as deferred income which is credited to the profit and loss account by instalments over the expected useful economic life of the related asset on a basis consistent with the depreciation policy.

Grant income is not recognised until there is reasonable assurance that the Group will comply with the conditions attaching to them and that the grants will be received.

Research and development

Research and development expenditure inclusive of items used in initial research is written off in the year in which it is incurred.

Fixed assets

All fixed assets are initially recorded at cost.

Depreciation

Depreciation is calculated so as to write off the cost of an asset, less its estimated residual value, over the useful economic life of that asset as follows:

Equipment — 20% to 50% straight line per annum

Operating lease agreements

Rentals applicable to operating leases where substantially all of the benefits and risks of ownership remain with the lessor are charged to the profit and loss account on a straight line basis over the period of the lease.

Pensions

The Company operates a defined contribution pension scheme for employees. The assets of the scheme are held separately from those of the Company. The annual contributions payable are charged to the profit and loss account.

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

1. ACCOUNTING POLICIES – (continued)

Taxation

Current tax is provided at amounts expected to be paid (or recovered) using the tax rates and laws that have been enacted or substantively enacted by the balance sheet date. The tax rates in effect for companies with profits of less than £300,000 is 20% for all periods presented.

Deferred tax is provided in full on timing differences, which result in an obligation at the balance sheet date to pay more tax, or a right to pay less tax, at a future date, at rates expected to apply when they crystallise based on current tax rates and law.

Timing differences arise from the inclusion of items of income and expenditure in taxation computations in periods different from those in which they are included in financial statements. Deferred tax assets are recognised to the extent that it is regarded as more likely than not that they will be recovered. Deferred tax assets and liabilities are not discounted.

Foreign exchange

Transactions denominated in foreign currencies are translated into British pounds at the rates ruling at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies at the balance sheet date are translated at the rates ruling at that date. Any gain or loss arising from a change in exchange rates subsequent to the date of the transaction is included as an exchange gain or loss in the profit and loss account.

Financial instruments

The Group has not adopted FRS 26 (‘Financial Instruments: Recognition and Measurement’), which requires both derivative financial instruments (including host contracts) to be recognised and measured at fair value and account for an embedded derivative separately from the host contract if certain criteria are met. Except where FRS 26 is applied, there is no requirement to separate embedded derivatives from host contracts. The Group has not separated its embedded derivatives from host contracts.

Financial instruments are classified and accounted for, according to the substance of the contractual arrangement, as either financial assets, financial liabilities or equity instruments. An equity instrument is any contract that evidences a residual interest in the assets of the Company after deducting all of its liabilities.

The proceeds received on issue of the Group’s convertible debt and redeemable convertible preferred stock are allocated into their liability and equity components and presented separately in the balance sheets. The amount initially attributed to the debt component equals the discounted cash flows using a market rate of interest that would be payable on similar debt instruments that did not include an option to convert. The difference between the net proceeds of the convertible debt and redeemable convertible preferred stock and the amount allocated to the debt component is credited direct to equity and is not subsequently remeasured. On conversion of the debt instrument, the debt and equity elements are derecognised and the share capital and share premium is created as appropriate.

Preference share warrants (‘warrants’) are measured at their fair value at date of exercise, when issued to non-employees, taking into account the terms and conditions attached to the warrants.

Warrants are recognised upon exercise and accounted for as part of the financial instrument that they are related to, either as equity or as a liability.

Share-based payment

The Company has issued share options to certain directors and employees. The cost of providing share-based payments to employees is charged to the profit and loss account over the vesting period of the related share options. The cost is based on the fair value of the options using the Black-Scholes option pricing

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

1. ACCOUNTING POLICIES – (continued)

model, which is appropriate given the vesting and other conditions attached to the options. The value of the charge is adjusted at each balance sheet date to reflect expected and actual levels of vesting.

When share options are awarded, the fair value of the options at the date of grant is charged to the profit and loss account over the vesting period. In the event of an exit, as defined in the group's share option plans, the charge to the profit and loss account is accelerated for any unvested element at the date of such event but only at the point when the event is deemed more likely than not. Non-market vesting conditions are taken into account by adjusting the number of equity instruments expected to vest at each balance sheet date so that, ultimately, the cumulative amount recognised over the vesting period is based on the number of options that eventually vest. If market vesting conditions exist, they are factored into the fair value of the options granted. As long as all other vesting conditions are satisfied, a charge is made irrespective of whether the market vesting conditions are satisfied. The cumulative expense is not adjusted for failure to achieve a market vesting condition.

Where terms and conditions of options are modified before they vest, the increase in the fair value of the options, measured immediately before and after modification, is also charged to the profit and loss account over the remaining period.

2. OPERATING LOSS

	2013 £	2014 £
Operating loss is after charging/(crediting):		
Staff pension contributions	85,130	74,238
Depreciation of owned fixed assets	29,844	27,308
(Profit)/loss on disposal of fixed assets	760	(413)
Loss on foreign currency translation	80,233	62,983
Share based payment	3,634	16,068

3. OTHER OPERATING INCOME

	2013 £	2014 £
Grant income	780,547	1,676,865

4. INTEREST RECEIVABLE AND SIMILAR INCOME

	2013 £	2014 £
Bank interest receivable	6,523	3,702

5. EMPLOYEES

	2013 £	2014 £
Wages and salaries	939,034	782,163
Pension costs	85,130	74,238
Share based payment charge	3,065	1,275

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

5. EMPLOYEES – (continued)

The average number of employees (excluding directors) during the year was as follows:

2013	2014
14	11

6. INTEREST PAYABLE AND SIMILAR CHARGES

	2013 £	2014 £
Preference share finance charges payable	1,603,706	1,709,556
Interest on other loans	291,367	417,724
Imputed interest charge on convertible loan notes	468,671	577,231
	2,363,744	2,704,511

7. TAX BENEFIT ON LOSS ON ORDINARY ACTIVITIES

Analysis of benefit in the year

	2013 £	2014 £
Current tax		
UK corporation tax based on the results for the year	(530,203)	(533,225)
Adjustment in respect of prior year	4,111	(316)
Total current tax benefit	(526,092)	(533,541)

The corporation tax credit for the year represents the reclaim of the available research and development tax credit which is shown in debtors at the year end.

The tax charge for the period differs from the standard rate of corporation tax in the UK. The differences are explained below:

	2013 £	2014 £
Loss on ordinary activities before taxation	(6,743,346)	(6,692,706)
Loss on ordinary activities at the standard rate of corporation tax in the UK 20% (2013: 20%)	(1,348,669)	(1,338,541)
Effects of:		
Unrelieved trading losses	527,016	595,042
Adjustment to tax charge in respect of previous periods	4,111	(316)
Expenses not deductible for tax purposes	294,237	364,648
Income not taxable	—	(37,474)
Capital allowances in excess of depreciation	4,124	2,115
Additional deduction to R&D expenditure	(454,460)	(492,209)
Surrender of tax losses for R&D tax credit refund	447,549	373,194
Current tax benefit for the year	(526,092)	(533,541)

A deferred tax asset, in respect of available trading losses, of £3,747,418 (2013: £3,221,326) has not been recognised, as there is insufficient evidence that the asset will be recovered. The asset would be recovered if sufficient future profits of the same trade are made.

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

8. TANGIBLE FIXED ASSETS

	Office equipment £	IT equipment £	Laboratory equipment £	Total £
Cost				
At 1 December 2013	12,627	53,589	265,526	331,742
Additions	—	6,952	3,982	10,934
Disposals	(1,795)	(11,280)	—	(13,075)
At 30 November 2014	10,832	49,261	269,508	329,601
Depreciation				
At 1 December 2013	11,803	53,589	193,754	259,146
Charge for the year	657	1,738	24,913	27,308
Eliminated on disposals	(1,782)	(11,280)	—	(13,062)
At 30 November 2014	10,678	44,047	218,667	273,392
Net book value				
At 30 November 2013	824	—	71,772	72,596
At 30 November 2014	154	5,214	50,841	56,209

9. DEBTORS

	2013 £	2014 £
Trade debtors	—	29,883
Corporation tax repayable	625,363	720,597
VAT recoverable	97,714	64,656
Other debtors	2,000	455,714
Prepayments	61,882	37,818
Accrued income	267,091	824,637
	1,054,050	2,133,305

Accrued income includes an amount of £380,734 (2013 — £Nil), which relates to products delivered on deferred payment terms, falling due after more than one year.

10. CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR

	2013 £	2014 £
Trade creditors	732,255	343,074
Other creditors including taxation and social security	139,036	536,471
5% fixed rate convertible loan notes	6,760,789	657,980
Accruals and deferred income	236,747	148,244
	7,868,827	1,685,769

During 2014, there was a further accretion of interest charge of £577,231, the group issued £3,602,077 of 5% fixed rate convertible loan notes (of which £144,097 has been recognised as an equity component of convertible loan notes; see note 14) and accrued interest of £416,481 was incurred, At 30 November 2014, £10,554,501 of the loan note balance was converted (including related interest accrued) into 114,772,683 Redeemable preference shares (Series A).

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

11. CREDITORS: AMOUNTS FALLING DUE AFTER ONE YEAR

	2013 £	2014 £
Government industry incentive loan	—	298,282
Redeemable preference shares (Series A)	9,158,322	16,438,847
Preference share finance charges payable	5,519,689	7,229,220
	14,678,011	23,966,349

The redeemable preference shares (Series A) ('preference shares') are redeemable at any time on or after the seventh anniversary of the original issue date, if requested in writing by the holders of 66.67% of the preference shares then outstanding. The Company shall redeem the preference shares for cash out of any funds legally available for this purpose. The preference shareholders also have the option to convert their shares into ordinary shares by requesting in writing at any time or, should a public offering occur, conversion will be mandatory.

The holder of the preference shares shall be entitled to receive out of funds legally available cumulative cash dividends at a rate of 6% per annum of the initial purchase price per share plus all accumulated and unpaid dividends. At the year end dividends accumulated but unpaid amounted to £4,739,602 (2013 — £3,676,394). In addition, £646,323 (2013 — £601,968) of finance charge has been recognised in relation to the accretion of the fair value of the liability component of the preference shares. The dividends are payable on the liquidation of the Company, on the conversion of the preference shares into ordinary shares of the Company or immediately prior to the shares being acquired or redeemed by the Company.

The preference share finance charges payable are classified in the profit and loss account as interest payable and similar charges. They are payable only when the Company has sufficient distributable reserves and when a shareholder converts their preference shares into ordinary shares.

On 30 November 2014, £10,554,501 of 5% fixed rate convertible loan notes (including interest accrued) were converted in to 114,772,683 preference shares at a price of £0.09196 per share, the instrument is separated into its component pieces, with £7,280,532 recognised in preference shares (which includes the nominal value of £1,855,617 (see note 12) and the balance of £3,273,969 in equity (see note 14).

12. SHARE CAPITAL

	2013 £	2014 £
Allotted and fully paid		
2,382,004 (2013 – 2,345,118) ordinary shares of £0.01 each	23,451	23,820
185,561,718 (2013 – 14,843,469) Redeemable preference shares (Series A) shares of £0.01 each	148,435	1,855,617
	171,886	1,879,437

	2013 £	2014 £
Amounts presented in equity		
Ordinary shares of £0.01 each	23,451	23,820
Creditors: Amounts due after one year		
Redeemable preference shares (Series A) shares of £0.01 each	148,435	1,855,617

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

12. SHARE CAPITAL – (continued)

Ordinary shares

During 2014, an employee exercised their option to purchase 386,886 ordinary shares at a price of £0.02 per share.

Redeemable preference shares (Series A)

On 30 November 2014, £10,554,501 of loan notes (including interest accrued) were converted into 114,772,683 £0.01 Redeemable preference shares (Series A) shares at a price of £0.09196 per share and, 55,945,566 £0.01. A preference share warrants. On 30 November 2014, the warrant holders exercised 55,945,566 £0.01 A preference share warrants at a price of £0.01 per share (see note 14).

13. SHARE PREMIUM ACCOUNT

	£
At 1 December 2013	152,561
Premium on issue of shares	369
At 30 November 2014	152,930

14. STATEMENT OF MOVEMENT ON RESERVES

	Equity reserve £	Profit and loss account £
At 1 December 2013	5,556,582	(25,705,337)
Total recognised loss for the financial year	—	(6,159,360)
Recognition of employee stock-based compensation	16,069	—
Recognition of equity component of redeemable preference shares (Series A)	3,833,425	—
Recognition of equity component of convertible loan notes	144,097	—
Conversion of loan notes	(1,045,902)	1,045,902
At 30 November 2014	8,504,271	(30,818,795)

Specifically in relation to the equity component of redeemable preference shares (Series A) (‘preference shares’), the increase derives from two events:

- On 30 November 2014, £10,554,501 of loan notes (including interest accrued) were converted in to 114,772,683 preference shares at a price of £0.09196 per share. Of the total amount converted, £3,273,969 is accounted for in equity and the balance in creditors: amounts falling due in after one year (see note 11); and
- On 30 November 2014, warrant holders exercised 55,945,566 £0.01 redeemable preference shares (Series A) warrants at a price of £0.01 per share, totalling £559,456.

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

15. SHARE OPTIONS

Share options re EMI Scheme

During the year ended 30 November 2009, under an Enterprise Management Incentive scheme ('EMI scheme'), share options of 604,411 ordinary shares of £0.01 were granted at an exercise price of £0.02. The grant of these options was made on 1 August 2008 and 11 December 2008 and will be exercisable at agreed vesting dates up to 10 years from the date of the grant. These share options were granted to 6 employees. The vesting provisions for individual employees vary and are based on length of service and successful completion of the company milestones, which include:

- An exit event, being a sale of at least 25% of the issued share capital, the sale of the whole (or substantially the whole) of the business and assets of the Company, a members' voluntary liquidation or listing of all or any of the Company's ordinary share on an official list;
- The successful securing of non-equity funding to cover directly or in-kind at least 75% of the variable costs for a clinical study; and
- Various milestones related to the performance of two studies.

During the year ended 30 November 2010, 1 employee exercised their right to 9,917 shares, for a consideration of £198 and due to leaving employment at the Company lost the right to an additional 12,122 share options.

During the year ended 30 November 2011, a further 1,355,589 options for shares of £0.01 were granted at an exercise price of £0.02. The grant of these options was made on 17 December 2010, 14 February 2011 and 20 October 2011 and will be exercisable at agreed vesting dates up to 10 years from the date of these grants. These options were granted to the existing share option holders and an additional 8 employees. The vesting provisions for individual employees vary and are based on length of service and successful completion of the company milestones.

During the year ended 30 November 2012, Mr C Brown exercised his right to 904,120 shares for a consideration of £18,082. Also a further 215,450 options for shares of £0.02 were granted at an exercise price of £0.02. The grant of these options was made on 31 July 2012 and will be exercisable at agreed vesting dates up to 10 years from the date of this grant. These options were granted to a new employee in the year. The vesting provisions for individual employees vary and are based on length of service and successful completion of the company milestones.

During the year ended 30 November 2013, a further 81,340 options for shares of £0.01 were granted under the EMI scheme at an exercise price of £0.02. These options were granted on 22 January 2013. Also a further 42,743 options under the EMI scheme lapsed on 4 October 2013. No options were exercised in the period.

During the year ended 30 November 2014, 1 employee exercised their right to 36,886 shares for a consideration of £738 under the EMI scheme. Also a further 30,767 options under the EMI scheme lapsed on 10 March 2014 and 30 September 2014 respectively. No options were granted in the period.

At 30 November 2014, there are 1,006,425 (2013 — 1,074,078) share options in place, held by 13 (2013-14) employees, under the EMI scheme.

Share Options re Non Qualifying Scheme

During the year ended 30 November 2009, under a non-qualifying share option scheme, 421,209 options for ordinary shares of £0.01 were granted at an exercise price of £0.02. The grant of these options was made on 1 August 2008 and 11 December 2008 and will be exercisable at agreed vesting dates up to 10 years from the date of the grant. These options were granted to 5 non-executive directors and 3 of the series A preference

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

15. SHARE OPTIONS – (continued)

shareholders. The vesting provisions for individuals with options vary and are based on length of service and successful completion of the company milestones.

During the year ended 30 November 2011, a further 146,625 non qualifying share options for ordinary shares of £0.01 were granted at an exercise price of £0.02. The grant of these options was made on 17 December 2010 and 20 October 2011 and will be exercisable at agreed vesting dates up to 10 years from the dates of the grants. These options were granted to 1 of the existing non-executive directors already holding non qualifying share options and to an external consultant of the Company. The vesting provisions for individuals with options vary and are based on length of service and successful completion of the company milestones.

During the year ended 30 November 2011, 4 non-executive directors exercised their right to 111,897 shares, for a consideration of £2,238 and due to leaving employment at the Company lost the right to an additional 247,757 share options.

During the year ended 30 November 2013, a further 1,940,252 non-qualifying share options for ordinary shares of £0.01 were granted at an exercise price of £0.02. No options were exercised or cancelled during the financial year, however 1,293,501 non-qualifying share options lapsed.

At 30 November 2014, there were 2,148,432 (2013 — 2,148,432) share options in place, held by 1 (2013-1) Executive Director, 1 (2013-1) non-executive director, 1 (2013-1) external consultant to the Company and 3 (2013-3) series A preference shareholders, under the non-qualifying share option scheme.

Preference share warrants

During 2010 and 2011, 2,405,935 Redeemable preference shares (Series A) warrants (‘warrants’) were issued at an exercise price of £0.01, with a 10 year life. In November 2014, 57,386,342 warrants were issued at an exercise price of £0.01, with a 10 year life. On 30 November 2014, the warrant holders’ exercised 55,945,566 £0.01 warrants at a price of £0.01 per share (see note 14). At 30 November 2014 there are 3,846,710 (2013 — 2,405,935) warrants unexercised.

16. ULTIMATE CONTROLLING PARTY

The ultimate parent company of Altimmune UK Limited is Altimmune, Inc. registered in the United States of America. Prior to the change in ownership on 10 March 2015 (see note 18), there was no ultimate controlling party as no one person or party of persons held more than 50% of the equity capital of the Company.

17. RELATED PARTY TRANSACTIONS

The FRS8 exemption on disclosing transactions with group companies has been taken. Dr B Chen is the managing partner of Ignatius Transaction Partners LLC. During the year the Company made purchases, in the ordinary course of business, at a cost of £203,779 (2013 — £196,933) from Ignatius Transaction Partners LLC. These purchases were for consultancy services and reimbursement of travel costs.

At 30 November 2014, £ 15,259 (2013 — £16,211) was owed to Ignatius Transaction Partners LLC. This is included in trade creditors.

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

18. SUBSEQUENT EVENTS

On 18 January 2015, under a non-qualifying share option scheme, 5,559,691 options for ordinary shares of £0.01 were granted at an exercise price of £0.02. On 18 January 2015, under the EMI scheme, 8,117,148 options for ordinary shares of £0.01 were granted at an exercise price of £0.02.

On 10 March 2015, pursuant to a share exchange agreement, dated as of February 13, 2015, as amended on March 10, 2015, Altimmune, Inc. (then Vaxin Inc.) acquired the Company and all of its assets and liabilities. To effect the transaction, on March 10, 2015, Altimmune, Inc. purchased all outstanding ordinary shares of the Company and issued 3,873,182 shares of Class A common stock and 39,123 shares of Class B common stock to existing shareholders of the Company, and granted 287,695 common stock options to replace outstanding share options. Total consideration comprised of the fair value of the common stock issued totalling $39,123,050 and the portion of option awards earned through March 10, 2015 totalling $2,325,487. From that date, Altimmune UK Limited (then Vain UK Limited and formerly Immune Targeting Systems (ITS) Limited) became a wholly owned subsidiary of Altimmune, Inc.

Also in March 2015:

- Altimmune, Inc. issued 800,000 shares of its Class A common stock at $10 per share for a total gross proceeds of $8,000,000. The equity financing is the first in a series of equity financing arrangements entered into with the Company's existing stockholders that enables the Company to raise up to $16,000,000;
- On 5 March 2015, 8,722,020 series A preference share warrants were issued at an exercise price of £0.01, with a 10 year life;
- On 10 March 2015, the remaining 5% fixed rate convertible loan note converted, initially into redeemable preference shares (Series A) and immediately into ordinary shares; and
- On 10 March 2015, there was a reverse stock split such that each ordinary share and ordinary option became 0.018697 ordinary share and ordinary option, respectively.

The Company changed its name from Immune Targeting Systems (ITS) Limited to Vaxin UK Limited on 11 March 2015 and to Altimmune UK Limited on 1 September 2015.

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

19. SUMMARY OF DIFFERENCES BETWEEN GENERALLY ACCEPTED ACCOUNTING PRACTICES IN THE UNITED KINGDOM ('UK GAAP') AND UNITED STATES GENERALLY ACCEPTED ACCOUNTING PRINCIPLES ('US GAAP')

The Company's financial statements are prepared in accordance with UK GAAP. These standards differ in certain respects from US GAAP.

Differences which have an effect on the consolidated net loss, shareholders' deficit, and financial position of the Company are set out below.

Effect of differences between UK GAAP and US GAAP on net loss:

	Notes	2013 £	2014 £
Loss recognized for the financial year in accordance with UK GAAP		(6,217,254)	(6,159,165)
US GAAP adjustments:			
Revenue from sale of WCCT virus asset	(a)	—	(518,666)
Change in fair value of redeemable convertible preferred stock warrant	(b)	(168,415)	1,515,739
Redeemable convertible preferred stock accrued dividend	(c)	1,001,738	1,063,208
Change in fair value of the liability component of redeemable convertible preferred stock	(c)	601,968	646,323
Accretion of convertible note discount under UK GAAP	(d)	468,671	577,231
Loss on extinguishment of convertible notes	(d)	—	(99,007,508)
Income tax benefit	(f)	—	—
Net loss in accordance with US GAAP		(4,313,292)	(101,882,838)

Effect of differences between UK GAAP and US GAAP on total shareholders' deficit:

	Notes	2013 £	2014 £
Shareholders' deficit in accordance with UK GAAP		(19,972,743)	(22,137,774)
US GAAP adjustments:			
Revenue from sale of WCCT virus asset	(a)	—	(518,666)
Cumulative change in fair value of redeemable convertible preferred stock warrant	(b)	(536,034)	979,705
Cumulative redeemable convertible preferred stock accretion	(c)	(682,050)	(909,808)
Cumulative change in fair value of the liability component of redeemable convertible preferred stock	(c)	1,843,295	2,489,618
Reversal of equity component of redeemable convertible preferred stock classified in equity reserve under UK GAAP	(c)	(4,491,679)	(8,325,105)
Reversal of equity component of convertible notes classified in equity reserve under UK GAAP	(d)	—	(144,097)
Reversal of cumulative accretion of convertible note discount under UK GAAP	(d)	(577,231)	—
Loss on extinguishment of convertible notes	(d)	—	(99,007,508)
Exercise of redeemable convertible preferred share warrants	(e)	—	(46,971,897)
Income tax benefit	(f)	—	—
Beneficial conversion feature on convertible notes	(g)	—	534,718
Total shareholders' deficit in accordance with US GAAP		(24,416,442)	(174,010,814)

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

19. SUMMARY OF DIFFERENCES BETWEEN GENERALLY ACCEPTED ACCOUNTING PRACTICES IN THE UNITED KINGDOM ('UK GAAP') AND UNITED STATES GENERALLY ACCEPTED ACCOUNTING PRINCIPLES ('US GAAP') – (continued)

(a) Revenue

The virus asset sales agreement with WCCT provided for the arrangement fees to be paid in instalments that included an upfront payment due upon contract signing with the remaining fees to be paid over a five-year period. Under UK GAAP, the Company recognized revenue under the WCCT arrangement when the virus asset was delivered and the earnings process was considered complete. Future instalment payments were recognized upon delivery of the virus asset at their net present value.

Under US GAAP, in determining whether fees were considered to be fixed or determinable at the outset of an arrangement that contains extended payment terms, footnote 5 to SAB Topic 13-A.1 states that while the Financial Accounting Standards Board's Accounting Standards Codification ("ASC") 985-605-25-33 through 985-605-25-35 specifically considers software transactions, the guidance should also be applied to other sales transactions where the risk of technological obsolescence is high.

Because (i) a significant portion of the WCCT arrangement fees are not due until more than 12 months after delivery of the virus asset, (ii) the Company does not have a history of using long-term or instalment contracts nor a history of successfully collecting under the original payment terms without making concessions, and (iii) the Company operates in an industry where the risk of technological obsolescence is high, management is unable to conclude that the WCCT arrangement fees were fixed or determinable at the outset of the arrangement when applying the guidance provided in footnote 5 to SAB Topic 13-A.1 and ASC 985-25-33 through 985-605-25-35. As a result, management concluded that revenue related to the WCCT arrangement should be recognized as payments become due. An adjustment is recorded to reverse future instalment payments not yet due that was recognized as revenue and accounts receivable in the UK GAAP financial statements.

(b) Redeemable convertible preferred stock warrants

The Company granted warrants to investors in connection with the issuance of redeemable convertible preferred stock. Under UK GAAP, companies, in practice, generally do not record preferred stock warrants until such time as the warrants are exercised and converted into preferred stock. Under US GAAP, preferred stock warrants that meet the definition of freestanding financial instruments in accordance with ASC 480 are recorded and classified as either equity or liability. Because the Company's preferred shares are redeemable at the holders' option or upon a deemed liquidation event, both of which are circumstances outside the issuer's control, the Company's preferred stock embodies an obligation for the Company to repurchase its own equity shares. The preferred warrants are non-share instruments that are exercisable or convertible into redeemable shares, where the redeemable shares provide the holders with the conditional right to require the Company to redeem (repurchase) its preferred stock for cash. As a result, in accordance with ASC 480-10, freestanding preferred stock warrants granted to investors in connection with the issuance of redeemable convertible preferred stock are initially accounted for as a discount on the related preferred stock issuance and are classified as liabilities. See Note (d) relating to the accounting for discount on the related preferred stock issuance. The warrant liabilities are initially recorded at their grant date fair value and are remeasured at each subsequent balance sheet date with the change in fair value recorded as a component of net loss.

(c) Redeemable convertible preferred stock

Under UK GAAP, redeemable convertible preferred stock that contain both debt and equity features are bifurcated and are separately accounted for. The debt component of convertible redeemable preferred stock is classified as a liability in accordance with FRS 25, and is recorded at fair value equal to the discounted cashflows at a market rate of interest that would be payable on similar debt instruments. The accretion of interest due on the liability portion of redeemable convertible preferred stock is recorded as a component of

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

19. SUMMARY OF DIFFERENCES BETWEEN GENERALLY ACCEPTED ACCOUNTING PRACTICES IN THE UNITED KINGDOM ('UK GAAP') AND UNITED STATES GENERALLY ACCEPTED ACCOUNTING PRINCIPLES ('US GAAP') – (continued)

loss for the financial year. Under UK GAAP, preferred stock dividends are recorded as a component of loss for the year. The equity component of the redeemable convertible preferred stock is classified in equity reserve. Under US GAAP and consistent with ASC 480-10-S99-2, redeemable convertible preferred stock is classified as temporary equity and is not bifurcated between debt and equity components. If the initial carrying amount of redeemable convertible preferred stock is lower than its redemption value (i.e., at a discount), it is adjusted for periodic accretion over the earliest redemption date up to the maximum redemption value. The carrying value of redeemable convertible preferred stock is also increased by periodic dividends that are payable upon redemption. The periodic accretion and dividend accrual are charged against retained earnings or, in the absence of retained earnings, against additional paid-in capital until the balance in additional paid-in capital is exhausted.

(d) Convertible notes

Under UK GAAP, convertibles notes that contain both debt and equity features are bifurcated and are separately accounted for. The equity component of the convertible notes is classified in equity reserve (UK GAAP equivalent of additional paid-in capital) and accounted for as a discount on the liability component of the convertible notes. The note discount is accreted using the interest method over the convertible note term and is recorded as a component of loss for the financial year. Upon note conversion into equity security, the related cumulative accretion through the conversion date is reclassified from the profit and loss account (the UK GAAP equivalent of retained earnings) into the equity reserve account.

Under US GAAP, the conversion features contained in the convertible notes are determined to not be embedded derivatives because they require physical settlement and there are no mechanisms that would permit net settlement in cash or other assets. As a result, under US GAAP, the conversion features are not required to be separately accounted for from the convertible notes.

In November 2014, outstanding convertible notes and accrued interest were converted at the note holders' option into the Company's redeemable convertible preferred stock at a significantly discounted conversion price, being a 90% discount, which was a modification from the original convertible note terms, resulting in a change in the value of the conversion feature of £94,988,952. Under UK GAAP, the issuance of preferred stock upon conversion of the notes are recorded at the carrying value of the notes and accrued interest, whichever is more readily determinable with no gains or losses being recognized. Under US GAAP, the exercise of the conversion option met the criteria of an extinguishment under ASC 405-20 where the Company was relieved of its obligations under the notes by delivering its redeemable convertible preferred shares and 55,945,566 warrants over the convertible preferred shares, which had a fair value of £4,017,044 on date of issuance. Further, in accordance with ASC 470-50, because the conversion price of the convertible notes was modified, the difference between the value of the preferred shares issued to settle the debt, the fair value of the warrants over the convertible preferred shares and the net carrying amount of the notes and accrued interest was recognized in the period of extinguishment as a loss.

(e) Redeemable convertible preferred share warrants

Under UK GAAP, companies, in practice, generally do not record preferred warrants until they are exercised into preferred shares. The issuance of preferred stock upon exercises of the warrants are initially recorded at the warrant exercise price, being £559,456.

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

19. SUMMARY OF DIFFERENCES BETWEEN GENERALLY ACCEPTED ACCOUNTING PRACTICES IN THE UNITED KINGDOM ('UK GAAP') AND UNITED STATES GENERALLY ACCEPTED ACCOUNTING PRINCIPLES ('US GAAP') – (continued)

Under US GAAP, the issuance of preferred stock upon exercises of the warrants are initially recorded at the preferred issuance price net of issuance costs and discounts, being £51,477,542. The £46,971,897 US GAAP adjustment reflects the difference in the preferred issuance price of £51,477,542, the fair value of the warrants exercised, being £3,916,190, and the carrying value of the preferred stock recognised under UK GAAP.

(f) Deferred income taxes

Under UK GAAP, deferred tax is accounted for in accordance with FRS 19, *Deferred Taxation*. Deferred tax is recognised for all timing differences that result in an obligation at the balance sheet date to pay more tax, or a right to pay less tax, at a future date. Deferred tax is measured at the average tax rates that are expected to apply in the periods in which the timing differences are expected to reverse based on tax rates and laws that have been enacted or substantively enacted by the balance sheet date. Where transactions or events that result in an obligation to pay more tax in the future, or a right to pay less tax in the future, have occurred at the balance sheet date, deferred tax is recognised.

A net deferred tax asset is recognised as recoverable and therefore recognised only when, on the basis of all available evidence, it can be regarded as more likely than not that there will be suitable taxable profits against which to recover carried forward tax losses and from which the future reversal of underlying timing differences can be deducted. FRS 19 permits, but does not require, discounting and deferred tax is measured on an undiscounted basis.

Under US GAAP, deferred taxation is provided for on a full liability basis. Under the liability method, deferred tax assets and liabilities represent the future tax consequences attributable to differences between financial statement carrying amounts of assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates that are expected to be in effect when these temporary differences are expected to reverse. A valuation allowance is established when necessary to reduce deferred tax assets to amounts expected to be realized. Under US GAAP, there is no accepted cap on the look-out period when the Company had a history of profitability. The effect of other differences between UK and US GAAP affecting the carrying value of assets and liabilities gives rise to other temporary differences on which deferred tax may be recognised under US GAAP.

There are no tax adjustments under US GAAP because the Company would maintain a full valuation allowance in each tax reporting jurisdiction for each of the years presented. The valuation allowance is due to the fact that it is not more likely than not that the net deferred tax assets will be realized due to history of losses in each reporting jurisdiction.

(g) Beneficial conversion feature on convertible notes

A conversion feature is beneficial if the conversion price is lower than the fair value at the commitment date. For the Group, the commitment date was the date of issuance. Under UK GAAP, the beneficial conversion feature is not applicable to debt instruments.

Under US GAAP, ASC 470-20 requires the beneficial conversion feature to be recognized at the commitment date and amortized over the term of the debt. The debt issued by the Group in November 2014 had a beneficial conversion feature of £534,718.

ALTIMMUNE UK LIMITED
(Formerly Immune Targeting Systems (ITS) Limited)

NOTES TO THE FINANCIAL STATEMENTS
Years Ended November 2013 and 2014

19. SUMMARY OF DIFFERENCES BETWEEN GENERALLY ACCEPTED ACCOUNTING PRACTICES IN THE UNITED KINGDOM ('UK GAAP') AND UNITED STATES GENERALLY ACCEPTED ACCOUNTING PRINCIPLES ('US GAAP') – (continued)

Statements of Cash Flows Under US GAAP

Set out below, is the consolidated statements of cash flows for the years ended 30 November 2013 and 2014 using the classification and measurement principles appropriate under US GAAP:

	2013 £	2014 £
Operating activities:		
Net loss under US GAAP	(4,313,292)	(101,882,838)
Reconciliation of net loss to net cash used in operating activities:		
Depreciation and amortization	29,844	27,308
Movement in tax credit	259,339	(95,234)
Loss (gain) on sale of property and equipment	760	(413)
Stock-based compensation	3,634	16,068
Change in fair value of redeemable convertible preferred warrant liabilities	168,415	(1,515,739)
Loss on extinguishment of convertible notes	—	99,007,508
Changes in operating assets and liabilities:		
Accounts receivable	(267,091)	(225,234)
Prepaid expenses and other assets	1,057	(5,819)
Accounts payable	344,616	(389,180)
Accrued expenses and other current liabilities	46,448	582,349
Deferred revenue	—	176,115
Net cash used in operating activities	(3,726,270)	(4,305,109)
Investing activities:		
Purchase of property and equipment	(2,816)	(10,934)
Proceeds from disposal of property and equipment	—	425
Net cash used in investing activities	(2,816)	(10,509)
Financing activities:		
Exercise of redeemable convertible preferred warrants	—	559,456
Exercise of ordinary share options	—	738
Proceeds from issuance of convertible notes	3,585,714	3,334,718
Proceeds from long-term obligations	—	298,282
Net cash provided by financing activities	3,585,714	4,193,194
Effect of exchange rates on cash	(85)	(195)
Net decrease in cash	(143,457)	(122,619)
Cash, beginning of year	1,590,906	1,447,449
Cash, end of year	1,447,449	1,324,830
Supplemental noncash financing activities:		
Conversion of convertible notes into redeemable convertible preferred stock	—	105,543,280
Exercise of redeemable convertible preferred warrants	—	3,916,190

TABLE OF CONTENTS

ANNEX A

AGREEMENT AND PLAN OF MERGER AND REORGANIZATION

by and among

PHARMATHENE, INC.,

MUSTANG MERGER SUB CORP I INC.,

MUSTANG MERGER SUB II LLC

ALTIMMUNE, INC.,

and

SHAREHOLDER REPRESENTATIVE SERVICES LLC, AS SECURITYHOLDERS' REPRESENTATIVE

Dated as of January 18, 2017

TABLE OF CONTENTS

AGREEMENT AND PLAN OF MERGER AND REORGANIZATION

THIS AGREEMENT AND PLAN OF MERGER AND REORGANIZATION (this "***Agreement***") is made and entered into as of January 18, 2017, by and among PharmAthene, Inc., a Delaware corporation ("***Parent***"), Mustang Merger Sub Corp I Inc., a Delaware corporation and a direct wholly owned subsidiary of Parent ("***Merger Sub Corp***"), Mustang Merger Sub II LLC, a Delaware limited liability company and a direct wholly owned subsidiary of Parent ("***Merger Sub LLC***"), Altimmune, Inc., a Delaware corporation (the "***Company***") and Shareholder Representative Services LLC, a Colorado limited liability company, solely in its capacity as the Securityholders' Representative. Certain capitalized terms used in this Agreement are defined in Section 9.14.

RECITALS

WHEREAS, Parent and the Company intend to merge Merger Sub Corp with and into the Company, with the Company as the surviving corporation in such merger ("***Merger 1***"), and immediately thereafter, merge the Company with and into Merger Sub LLC, with Merger Sub LLC as the surviving entity in such merger ("***Merger 2***" and together with Merger 1, each a "***Merger***" and collectively the "***Mergers***") in accordance with this Agreement and the DGCL. Upon consummation of Mergers, Merger Sub Corp and the Company will cease to exist, and Merger Sub LLC will continue as a direct wholly owned subsidiary of Parent;

WHEREAS, pursuant to the terms and conditions of this Agreement, the holders of the outstanding equity of the Company immediately prior to the Effective Time (including equity issued by the Company Private Placement) will own approximately 58.2% of the outstanding equity of Parent immediately following the Effective Time and the holders of the outstanding equity of Parent immediately prior to the Effective Time will own approximately 41.8% of the outstanding equity of Parent immediately following the Effective Time;

WHEREAS, the Board of Directors of Parent has unanimously (a) determined that the Mergers and this Agreement are advisable and in the best interests of Parent and its stockholders, (b) approved this Agreement, the Mergers, the issuance of shares of Parent Common Stock to the Company Stockholders pursuant to the terms of this Agreement, and the other actions contemplated by this Agreement, and (c) determined to recommend that the stockholders of Parent vote to approve this Agreement, the issuance of shares of Parent Common Stock to the Company Stockholders pursuant to the terms of this Agreement and such other actions as contemplated by this Agreement including the Parent Stockholder Proposals;

WHEREAS, the Board of Directors of Merger Sub Corp has unanimously (a) determined that the Mergers and this Agreement are advisable and in the best interests of Merger Sub Corp and its sole stockholder, (b) approved this Agreement, the Mergers, and the other actions contemplated by this Agreement, and (c) determined to recommend that the stockholder of Merger Sub Corp vote to approve this Agreement, the Mergers and such other actions as contemplated by this Agreement;

WHEREAS, the Managing Member of Merger Sub LLC has (a) determined that the Mergers and this Agreement are advisable and in the best interests of Merger Sub LLC and its sole member, and (b) approved this Agreement, the Mergers, and the other actions contemplated by this Agreement;

WHEREAS, the Board of Directors of the Company has unanimously (a) determined that the Mergers and this Agreement are advisable and in the best interests of the Company and its stockholders, (b) approved this Agreement, the Mergers and the other actions contemplated by this Agreement, and (c) determined to recommend that the Company Stockholders vote to approve this Agreement, the Mergers and such other actions as contemplated by this Agreement;

WHEREAS, in order to induce Parent, Merger Sub Corp and Merger Sub LLC to enter into this Agreement and to cause the Mergers to be consummated, the Company has entered into a definitive agreement (as the same may be amended from time to time in accordance with the terms thereof, the "***Company Financing Agreement***") with certain Company Stockholders who have irrevocably committed to (i) participate in a private placement of convertible securities of the Company to raise an aggregate of no less than $3,500,000 of gross proceeds for the Company to be received by the Company prior to the Effective Time (the "***Company Private Placement***") and (ii) participate in a private placement of Parent Common

Stock to raise an aggregate of no less than $5,000,000 of gross proceeds for Parent to be received by Parent within 135 days of the Closing Date (the "***Post-Closing Private Placement***");

WHEREAS, in order to induce the Company to enter into this Agreement and to cause the Mergers to be consummated, the stockholders of Parent listed on Schedule I hereto, are executing voting and support agreements in favor of the Company concurrently with the execution and delivery of this Agreement in the form substantially attached hereto as Exhibit A (the "***Parent Voting Agreements***");

WHEREAS, in order to induce the Company to cause the Mergers to be consummated, certain of Parent's officers, directors and holders of shares of Parent Common Stock have executed lock-up agreements relating to sales and certain other dispositions of shares of Parent Common Stock or certain other securities after the Closing (the "***Parent Lock-up Agreements***");

WHEREAS, in order to induce Parent, Merger Sub Corp and Merger Sub LLC to cause the Mergers to be consummated, certain of the Company's officers, directors and Company Stockholders have executed lock-up agreements relating to sales and certain other dispositions of shares of Parent Common Stock or certain other securities after the Closing (the "***Company Lock-up Agreements***"); and

WHEREAS, for U.S. federal income tax purposes, Parent, Merger Sub Corp, Merger Sub LLC and the Company intend that the Mergers, together with the issuance of shares of Parent Common Stock to the Company Stockholders, will qualify as a "reorganization" within the meaning of Section 368(a) of the Code, that this Agreement will constitute a "plan of reorganization" with the meaning of Treasury Regulations Sections 1.368-1(c), 1.368-2(g) and 1.368-3(a), and that Parent and the Company will each be a "party to the reorganization" within the meaning of Section 368(b) of the Code.

NOW, THEREFORE, in consideration of the representations, warranties, covenants and agreements set forth herein, the parties agree as follows:

ARTICLE 1
THE MERGERS AND CERTAIN GOVERNANCE MATTERS

Section 1.1 Structure of the Merger. Upon the terms and subject to the conditions set forth in this Agreement, at the Effective Time, Merger Sub Corp shall be merged with and into the Company, and the separate existence of Merger Sub Corp shall cease, and immediately thereafter, the Company shall be merged with and into Merger Sub LLC, and the separate existence of the Company shall cease. Merger Sub LLC will continue as the surviving entity following the Mergers (the "***Surviving Entity***").

Section 1.2 Effects of the Merger. The Mergers shall have the effects set forth in this Agreement and in the applicable provisions of the DGCL.

Section 1.3 Closing; Effective Time. Unless this Agreement is earlier terminated pursuant to the provisions of Section 7.1 of this Agreement, and subject to the satisfaction or waiver of the conditions set forth in Article 6 of this Agreement, the consummation of the Mergers (the "***Closing***") shall take place at the offices of Parent at One Park Place, Suite 450, Annapolis, Maryland 21401, no later than three (3) Business Days following the satisfaction (or waiver by the party entitled to the benefit thereof) of the conditions to the Closing set forth in Article 6 (other than the conditions that by their nature are to be satisfied at Closing, but subject to the satisfaction or waiver of each of such conditions), or at such other time, date and place as Parent and the Company may mutually agree in writing. The date on which the Closing actually takes place is referred to as the "***Closing Date***." At the Closing, the Parties shall cause the Mergers to be consummated by executing and filing with the Secretary of State of the State of Delaware Certificates of Merger (the "***Certificates of Merger***") with respect to each Merger, satisfying the applicable requirements of the DGCL and in a form reasonably acceptable to Parent and the Company. The Mergers shall become effective at the time of the filing of such Certificates of Merger with the Secretary of State of the State of Delaware, or at such later time as may be specified in such Certificates of Merger with the consent of Parent and the Company (the time as of which Merger 1 becomes effective being referred to as the "***Effective Time***").

Section 1.4 Certificate of Incorporation and Bylaws; Directors and Officers; Name Change. At the Effective Time:

(a) the Certificate of Incorporation of Parent shall be amended and restated in its entirety to read as set forth on Exhibit B, and as so amended and restated, shall be the Certificate of Incorporation of Parent, until thereafter amended as provided by the DGCL and such Certificate of Incorporation and Parent shall take any other action requested by the Company as shall be necessary or desirable to cause the name of Parent to be changed to "Altimmune, Inc.";

(b) the Bylaws of Parent shall be amended and restated in its entirety to read as set forth on Exhibit C, and as so amended and restated, shall be the Bylaws of Parent, until thereafter amended as provided by the DGCL and the Certificate of Incorporation of Parent;

(c) the directors and officers of Parent shall be as provided for in Section 5.13.

Section 1.5 Conversion of Shares.

(a) At the Effective Time, by virtue of Merger 1 and without any further action on the part of Parent, Merger Sub Corp, Merger Sub LLC, the Company or any stockholder of any of the foregoing:

(i) any shares of Company Common Stock or Company Preferred Stock owned as treasury stock of the Company or owned by Parent or by any direct or indirect wholly owned Subsidiary of Parent immediately prior to the Effective Time shall be automatically canceled and retired and shall cease to exist, and no consideration shall be delivered in exchange therefor;

(ii) subject to Section 1.5(b), each share of Company Common Stock and Company Preferred Stock (including all accrued but unpaid dividends thereon) outstanding immediately prior to the Effective Time (excluding shares to be canceled pursuant to Section 1.5(a)(i) and Dissenting Shares, and after giving effect to the Company Private Placement) shall be automatically converted solely into the right to receive a number of shares of Parent Common Stock equal to the Exchange Ratio (the "***Merger Shares***"); and

(iii) each Company Warrant outstanding immediately prior to the Effective Time shall be automatically converted solely into the right to receive a warrant to purchase a number of shares of Parent Common Stock as determined based on Exchange Ratio and otherwise in accordance with the provisions of such Company Warrant.

(b) If any shares of Company Common Stock outstanding immediately prior to the Effective Time are unvested or are subject to a repurchase option or the risk of forfeiture or under any applicable restricted stock purchase agreement or other agreement with the Company (other than those shares (if any) which, as a result of the Merger, shall, by the terms of the agreements applicable thereto, vest or for which any such repurchase options or other such restrictions or risks of forfeiture shall lapse), then the shares of Parent Common Stock issued in exchange for such shares of Company Common Stock will to the same extent be unvested and subject to the same repurchase option or risk of forfeiture, and the certificates representing such shares of Parent Common Stock shall accordingly be marked with appropriate legends. The Company shall take all action that may be necessary to ensure that, from and after the Effective Time, Parent is entitled to exercise any such repurchase option or other right set forth in any such restricted stock purchase agreement or other agreement in accordance with its terms.

(c) No fractional shares of Parent Common Stock shall be issued in connection with Merger 1 as a result of the conversion provided for in Section 1.5(a)(ii), and no certificates or scrip for any such fractional shares shall be issued. Any fractional shares of Parent Common Stock that that would be issuable as a result of the conversion provided for in Section 1.5(a)(ii) shall be rounded up to the next whole share.

(d) Each share of common stock, $0.0001 par value per share, of Merger Sub Corp issued and outstanding immediately prior to the Effective Time shall be automatically converted into and exchanged for one validly issued, fully paid and nonassessable share of common stock, $0.0001 par value per share, of the Company as the surviving corporation of Merger 1. Each stock certificate of Merger Sub Corp

evidencing ownership of any such shares shall, as of the Effective Time, evidence ownership of such shares of common stock of the Company as the surviving corporation of Merger 1.

(e) If, between the date of this Agreement and the Effective Time, the outstanding shares of Company Capital Stock or Parent Common Stock shall have been changed into, or exchanged for, a different number of shares or a different class, by reason of any stock dividend, subdivision, reorganization, reclassification, recapitalization, split, reverse split (excluding the Reverse Stock Split which shall be effective immediately prior to the Effective Time), combination or exchange of shares or other like change (including any dividend or distribution of securities convertible into shares of Company Capital Stock or Parent Common Stock), the Exchange Ratio, shall be correspondingly adjusted to provide the holders of Company Common Stock, Company Preferred Stock, Company Stock Options and Company Warrants the same economic effect as contemplated by this Agreement prior to such event.

(f) At the effective time of Merger 2, by virtue of Merger 2 and without any further action on the part of Parent, Merger Sub Corp, Merger Sub LLC, the Company or any stockholder of any of the foregoing, all shares of capital stock of the Company, as the surviving corporation of Merger 1, shall be automatically canceled and retired and shall cease to exist, and no consideration shall be delivered in exchange therefor.

Section 1.6 Company Stock Options.

(a) At the Effective Time, each Company Stock Option that is outstanding and unexercised immediately prior to the Effective Time, whether vested or unvested, will be converted into and become an option to purchase Parent Common Stock, and the Company Stock Option Plans shall be assumed by Parent. All rights with respect to the Company Common Stock under each Company Stock Option assumed by Parent shall thereupon be converted into rights with respect to Parent Common Stock. Accordingly, from and after the Effective Time: (i) each Company Stock Option assumed by Parent may be exercised solely for shares of Parent Common Stock, (ii) the number of shares of Parent Common Stock subject to each Company Stock Option assumed by Parent shall be determined by multiplying (x) the number of shares of Company Common Stock that were subject to such Company Stock Option, as in effect immediately prior to the Effective Time, by (y) the Exchange Ratio, with the resulting number rounded down to the nearest whole number of shares of Parent Common Stock, (iii) the exercise price per share for the Parent Common Stock issuable upon exercise of each assumed Company Stock Option will equal the quotient obtained from dividing (x) the exercise price per share for the Company Common Stock purchasable pursuant to the assumed Company Stock Option immediately prior to the Effective Time by (y) the Exchange Ratio, with the resulting exercise price rounded up to the nearest whole cent, and (iv) any restriction on the exercise of any assumed Company Stock Option shall continue in full force and effect and the term, exercisability, vesting schedule, status as an “incentive stock option” under Section 422 of the Code, if applicable, and other provisions of such Company Stock Option will otherwise remain unchanged; provided, however, that: (1) to the extent provided under the terms of a Company Stock Option, such Company Stock Option assumed by Parent in accordance with this Section 1.6(a) will, in accordance with its terms, be subject to further adjustment as appropriate to reflect any stock split, division or subdivision of shares, stock dividend, reverse stock split, consolidation of shares, reclassification, recapitalization or other similar transaction with respect to Parent Common Stock subsequent to the Effective Time, (2) Parent’s Board of Directors or an authorized committee thereof will succeed to the authority and responsibility of the Company’s Board of Directors or any authorized committee thereof with respect to each Company Stock Option assumed by Parent, and (3) all references in the Company Stock Option Plans and applicable award agreements to the Company shall be deemed to mean Parent. Notwithstanding anything to the contrary in this Section 1.6(a), the conversion of each Company Stock Option (regardless of whether such option qualifies as an “incentive stock option” within the meaning of Section 422 of the Code) into an option to purchase shares of Parent Common Stock will be made in a manner consistent with Treasury Regulation Section 1.424-1, such that the conversion of a Company Stock Option will not constitute a “modification” of such Company Stock Option for purposes of Section 409A or Section 424 of the Code. It is the intention of the parties that each Company Stock Option so assumed by Parent shall qualify following the Effective Time as an

incentive stock option as defined in Section 422 of the Code to the extent permitted under Section 422 of the Code and to the extent such Company Stock Option qualified as an incentive stock option prior to the Effective Time.

(b) As soon as practicable after the Effective Time, subject to Section 5.2(a), Parent shall deliver to the former holders of the Company Stock Options an appropriate notice evidencing the foregoing assumption setting forth the specific adjustments made to the assumed Company Stock Options, as provided in this Section 1.6.

(c) Parent shall take all corporate action necessary to reserve for issuance a sufficient number of shares of Parent Common Stock for delivery upon exercise of the Company Stock Options assumed in accordance with this Section 1.6. As soon as practicable (but in no event more than ten (10) business days after the Effective Time), Parent shall file a registration statement on Form S-8 (or any successor form) with respect to the shares of Parent Common Stock subject to such assumed Company Stock Options, and thereafter shall use commercially reasonable efforts to maintain the effectiveness of that registration statement for as long as any such assumed Company Stock Options remain outstanding.

Section 1.7 Closing of the Company's Transfer Books. At the Effective Time, the stock transfer books of the Company shall be closed with respect to all shares of Company Common Stock and Company Preferred Stock outstanding immediately prior to the Effective Time. No further transfer of any such shares of Company Common Stock or Company Preferred Stock shall be made on such stock transfer books after the Effective Time. If, after the Effective Time, a valid certificate previously representing any shares of Company Common Stock or Company Preferred Stock outstanding immediately prior to the Effective Time (a "***Company Stock Certificate***") is presented to Parent, the Surviving Entity or the Exchange Agent, such Company Stock Certificate shall be canceled and shall be exchanged as provided in Section 1.5 and Section 1.8.

Section 1.8 Surrender of Certificates.

(a) Escrow Shares. At the Effective Time, Parent shall withhold from the Merger Shares the Escrow Shares, which shall be allocated among the Company Stockholders in accordance with their Pro Rata Share. Any such Escrow Shares will be delivered by Parent to the Escrow Agent, to be held pursuant to the terms of the Escrow Agreement in accordance with Section 8.5 hereof. The Escrow Shares shall be deposited, voted, transferred, and released in accordance with Article 8 hereof and the Escrow Agreement.

(b) Exchange Agent. At the Effective Time, Parent shall deposit with the Exchange Agent, for the benefit of the holders of certificates formerly representing the Company Common Stock ("***Certificates***"), certificates or book-entry shares representing shares of Parent Common Stock in the aggregate amount equal to the Merger Shares less the Escrow Shares. In addition, Parent shall deposit with the Exchange Agent, as necessary from time to time after the Effective Time, any dividends or other distributions payable pursuant to Section 1.8(d). All shares of Parent Common Stock, cash, dividends and distributions deposited with the Exchange Agent pursuant to this Section 1.8(b) shall hereinafter be referred to as the "***Exchange Fund***." The Exchange Fund shall not be used for any other purpose.

(c) Exchange Procedures. As soon as reasonably practicable after the Effective Time (and in any event within five Business Days), Parent shall cause the Exchange Agent to mail to each holder of record of a Certificate (i) a form of letter of transmittal (which shall specify that delivery shall be effected, and risk of loss and title to the Certificates shall pass, only upon proper delivery of the Certificates to the Exchange Agent and which shall be in customary form and contain customary provisions), and (ii) instructions for use in effecting the surrender of the Certificates in exchange for the Merger Shares, any dividends or other distributions payable pursuant to Section 1.8(d). Each holder of record of one or more Certificates shall, upon surrender to the Exchange Agent of such Certificates, together with such letter of transmittal, duly executed, and such other documents as may reasonably be required by the Exchange Agent, be entitled to receive promptly in exchange therefor (i) a certificate or certificates or book-entry shares representing that number of whole shares of Parent Common Stock (after taking into account all Certificates surrendered by such holder) to which such holder is entitled pursuant to

Section 1.8(b), and (ii) any dividends or distributions payable pursuant to Section 1.8(d), and the Certificates so surrendered shall forthwith be canceled. In the event of a transfer of ownership of the Company Common Stock that is not registered in the transfer records of the Company, payment of the Merger Shares in accordance with Section 1.8(b) may be made to a person other than the person in whose name the Certificate so surrendered is registered if such Certificate shall be properly endorsed or otherwise be in proper form for transfer and the person requesting such payment shall pay any transfer or other Taxes required by reason of the transfer or establish to the reasonable satisfaction of Parent that such Taxes have been paid or are not applicable. Until surrendered as contemplated by this Section 1.8(c), each Certificate shall be deemed at any time after the Effective Time to represent only the right to receive upon such surrender the Merger Shares and any dividends or other distributions payable pursuant to Section 1.8(d). No interest shall be paid or will accrue on any payment to holders of Certificates pursuant to the provisions of this Article 1.

(d) Distributions with Respect to Unexchanged Shares. No dividends or other distributions with respect to Parent Common Stock with a record date on or after the Effective Time shall be paid to the holder of any unsurrendered Certificate with respect to the shares of Parent Common Stock that the holder thereof has the right to receive upon the surrender thereof, until the holder of such Certificate shall have surrendered such Certificate in accordance with this Article 1. Following the surrender of any Certificate, there shall be paid to the record holder of the certificate representing whole shares of Parent Common Stock issued in exchange therefor, without interest, (i) at the time of such surrender, the amount of dividends or other distributions with a record date on or after the Effective Time theretofore paid with respect to such whole shares of Parent Common Stock, and (ii) at the appropriate payment date, the amount of dividends or other distributions with a record date on or after the Effective Time but prior to such surrender and a payment date subsequent to such surrender payable with respect to such whole shares of Parent Common Stock.

(e) No Further Ownership Rights in the Company Common Stock. The Merger Shares and any dividends or other distributions as are payable pursuant to Section 1.8(d) upon the surrender of Certificates in accordance with the terms of this Article 1 shall be deemed to have been in full satisfaction of all rights pertaining to the Company Common Stock formerly represented by such Certificates, subject, however, to the Surviving Entity's obligation to pay any dividends or make any other distributions with a record date prior to the Effective Time which may have been declared or made by the Company on the Company Common Stock in accordance with the terms of this Agreement prior to the Effective Time.

(f) Termination of the Exchange Fund. Any portion of the Exchange Fund that remains undistributed to the holders of the Certificates for one year after the Effective Time shall be delivered to Parent, upon demand, and any holders of the Certificates who have not theretofore complied with this Article 1 shall thereafter look only to Parent for, and Parent shall remain liable for, payment of their claim for the Merger Shares and any dividends or other distributions payable pursuant to Section 1.8(d) in accordance with this Article 1.

(g) No Liability. None of Parent, Merger Sub Corp, Merger Sub LLC, the Company, the Surviving Entity or the Exchange Agent shall be liable to any person in respect of any shares of Parent Common Stock, cash, dividends or other distributions from the Exchange Fund properly delivered to a public official pursuant to any applicable abandoned property, escheat or similar Law.

(h) Investment of Exchange Fund. The Exchange Agent shall invest the cash included in the Exchange Fund as directed by Parent; provided, however, that such investments shall be in obligations of or guaranteed by the United States of America, in commercial paper obligations rated A-1 or P-1 or better by Moody's Investors Service, Inc. or Standard & Poor's Corporation, respectively, or in certificates of deposit, bank repurchase agreements or banker's acceptances of commercial banks with capital exceeding $10 billion (based on the most recent financial statements of such bank which are then publicly available). Any interest and other income resulting from such investments shall be paid to and be income of Parent.

(i) Lost Certificates. If any Certificate shall have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the person claiming such Certificate to be lost, stolen or destroyed (and without the requirement to post or deliver any bond), the Exchange Agent shall deliver in exchange for such lost, stolen or destroyed Certificate the Merger Shares, any dividends or other distributions payable pursuant to Section 1.8(d) pursuant to this Article 1.

(j) Withholding Rights. Parent, the Surviving Entity or the Exchange Agent shall be entitled to deduct and withhold from the consideration otherwise payable pursuant to this Agreement such amounts as Parent, the Surviving Entity or the Exchange Agent are required to deduct and withhold with respect to the making of such payment under the Code or any provision of state, local or non-U.S. Tax Law and shall be entitled to request any reasonably appropriate Tax forms, including an IRS Form W-9 (or the appropriate IRS Form W-8, as applicable), from any recipient of payments hereunder; provided that the Parties shall undertake commercially reasonable efforts to minimize withholding, and shall provide notice (to the applicable Party) of any intention to withhold (or determination that the Exchange Agent may withhold) as soon as is practicable after forming the intention to withhold or determining that the Exchange Agent may withhold. To the extent that amounts are so withheld by Parent, the Surviving Entity or the Exchange Agent, such withheld amounts (i) shall be treated for all purposes of this Agreement as having been paid to the holder of Certificates in respect of which such deduction and withholding was made by Parent, the Surviving Entity or the Exchange Agent, and (ii) shall be remitted by Parent, the Surviving Entity or the Exchange Agent, as the case may be, to the applicable Governmental Entity.

Section 1.9 Appraisal Rights.

(a) Notwithstanding any provision of this Agreement to the contrary, shares of Company Capital Stock that are issued and outstanding immediately prior to the Effective Time and which are owned by stockholders who have validly exercised appraisal rights or dissenters' rights for such shares of Company Capital Stock in accordance with the DGCL (collectively, the "***Dissenting Shares***") shall not be converted into or represent the right to receive the per share amount of the Merger Shares described in Section 1.5 attributable to such Dissenting Shares. Such stockholders shall be entitled to receive payment of the appraised value of such shares of Company Capital Stock owned by them in accordance with the DGCL, unless and until such stockholders fail to perfect or effectively withdraw or otherwise lose their appraisal rights under the DGCL. All Dissenting Shares owned by stockholders who shall have failed to perfect or who effectively shall have withdrawn or lost their right to appraisal of such shares of Company Capital Stock under the DGCL shall thereupon be deemed to be converted into and to have become exchangeable for, as of the Effective Time, the right to receive the per share amount of the Merger Shares attributable to such Dissenting Shares, upon their surrender in the manner provided in Section 1.8.

(b) The Company shall give Parent prompt written notice of any demands by dissenting stockholders received by the Company, withdrawals of such demands and any other instruments served on the Company and any material correspondence received by the Company in connection with such demands and Parent shall have the right to participate in all negotiations and proceedings with respect to such demands. Except with the prior written consent of Parent, or to the extent required by applicable law, the Company shall not make any payment with respect to, or offer to settle or settle, any such demands.

Section 1.10 Further Action. If, at any time after the Effective Time, any further action is determined by the Surviving Entity to be necessary or desirable to carry out the purposes of this Agreement or to vest the Surviving Entity with full right, title and possession of and to all rights and property of the Company, then the officers and directors of the Surviving Entity shall be fully authorized, and shall use their commercially reasonable efforts (in the name of the Company, in the name of Merger Sub Corp, in the name of Merger Sub LLC and otherwise) to take such action.

ARTICLE 2
REPRESENTATIONS AND WARRANTIES OF THE COMPANY

The Company represents and warrants to Parent, Merger Sub Corp and Merger Sub LLC as follows, except as set forth in the written disclosure schedule delivered by the Company to Parent (the "***Company Disclosure Schedule***"). The Company Disclosure Schedule shall be arranged in parts and subparts corresponding to the numbered and lettered Sections and subsections contained in this Article 2. The disclosures in any part or subpart of the Company Disclosure Schedule shall qualify other Sections and subsections in this Article 2 only to the extent it is clear from the face of the disclosure that such disclosure is applicable to such other Sections and subsections.

Section 2.1 Organization.

(a) The Company is a corporation validly existing and in good corporate standing under the Laws of the State of Delaware. The Company has all requisite corporate power and authority to own, lease and operate all of its properties and assets and to carry on its business as it is now being conducted. The Company is duly licensed or qualified to do business and is in corporate good standing in each jurisdiction in which the nature of the business conducted by it or the character or location of the properties and assets owned, leased, or operated by it makes such licensing or qualification necessary, except where the failure to be so licensed or qualified and in corporate good standing would not, either individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect. The certificate of incorporation of the Company (the "***Company Charter***") and the bylaws of the Company (the "***Company Bylaws***"), copies of which have previously been made available to Parent, are true, correct and complete copies of such documents as currently in effect and the Company is not in violation of any provision thereof. Other than the Company Charter and the Company Bylaws, the Company is not a party to or bound by or subject to any stockholder agreement or other similar agreement governing the voting or transfer of the Company Capital Stock and is not subject to a stockholder rights plan.

(b) Each of the Company's Subsidiaries is a corporation or legal entity, validly existing and, if applicable, in good standing under the Laws of the jurisdiction of its organization. Each of the Company's Subsidiaries has all requisite corporate power or other power and authority to own, lease and operate all of its properties and assets and to carry on its business as it is now being conducted. Each of the Company's Subsidiaries is duly licensed or qualified to do business in each jurisdiction in which the nature of the business conducted by it or the character or location of the properties and assets owned, leased, or operated by it makes such licensing or qualification necessary, except where the failure to be so licensed or qualified and in good standing would not, either individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect. The certificate of incorporation and bylaws or equivalent organizational documents of each of the Company's Subsidiaries, copies of which have previously been made available to the Company, are true, correct and complete copies of such documents as currently in effect and such Subsidiaries of the Company are not in violation of any provision thereof.

Section 2.2 Capitalization.

(a) The authorized capital stock of the Company consists of 18,757,111 shares of Company Common Stock and 800,000 shares Company Preferred Stock. As of the date hereof, there are 9,233,944 shares of Company Common Stock issued and outstanding and there are 800,000 shares of Company Preferred Stock issued and outstanding. As of the date hereof, there are no shares of Company Common Stock and no shares of Company Preferred Stock held in the treasury of the Company. The Company has no shares of Company Common Stock or Company Preferred Stock reserved for issuance other than as described herein or in the Company Disclosure Schedule. The outstanding shares of Company Common Stock and Company Preferred Stock have been duly authorized and are validly issued, fully paid and nonassessable, and were not issued in violation of the material terms of any agreement binding upon the Company at the time at which they were issued and were issued in compliance with the Company Charter and Company Bylaws and all applicable securities Laws. Section 2.2(a) of the Company Disclosure Schedule sets forth a true, correct and complete list, as of the

date hereof, of all issued and outstanding shares of Company Common Stock and shares of Company Preferred Stock, on a holder-by-holder basis.

(b) Except for the Company Stock Option Plans and the Company Warrants or as set forth in Section 2.2(b) of the Company Disclosure Schedule, the Company does not have and is not bound by any outstanding subscriptions, options, warrants, calls, commitments, rights agreements, or agreements of any character calling for the Company to issue, deliver, or sell, or cause to be issued, delivered, or sold any shares of Company Common Stock or any other equity security of the Company or any securities convertible into, exchangeable for, or representing the right to subscribe for, purchase, or otherwise receive any shares of Company Common Stock or any other equity security of the Company or obligating the Company to grant, extend, or enter into any such subscriptions, options, warrants, calls, commitments, rights agreements, or any other similar agreements. Except as set forth in Section 2.2(b) of the Company Disclosure Schedule, there are no registration rights, repurchase or redemption rights, anti-dilutive rights, voting agreements, voting trusts, preemptive rights or restrictions on transfer relating to any capital stock of the Company.

(c) As of the date hereof, there are 1,609,812 shares of Company Common Stock issuable upon exercise of all outstanding Company Stock Options, subject to adjustment on the terms set forth in the Company Stock Option Plans. Section 2.2(c) of the Company Disclosure Schedule sets forth a true, correct and complete list, as of the date hereof, of (i) the name of the holder of each Company Stock Option, (ii) the date each Company Stock Option was granted, (iii) the number, issuer and type of securities subject to each such Company Stock Option, (iv) the expiration date of each such Company Stock Option, (v) the vesting schedule of each such Company Stock Option, (vi) the price at which each such Company Stock Option (or each component thereof, if applicable) may be exercised, (vii) the number of shares of Company Common Stock issuable upon the exercise of such, or upon the conversion of all securities issuable upon the exercise of such, Company Stock Options, and (viii) whether and to what extent the exercisability of each Company Stock Option will be accelerated upon consummation of the Contemplated Transactions or any termination of employment thereafter.

(d) Section 2.2(d) of the Company Disclosure Schedule lists each Subsidiary of the Company as of the date hereof and indicates for each such Subsidiary as of such date (i) the percentage and type of equity securities owned or controlled, directly or indirectly, by the Company, and (ii) the jurisdiction of incorporation or organization. No Subsidiary of the Company has or is bound by any outstanding subscriptions, options, warrants, calls, commitments, rights agreements, or agreements of any character calling for it to issue, deliver, or sell, or cause to be issued, delivered, or sold any of its equity securities or any securities convertible into, exchangeable for, or representing the right to subscribe for, purchase or otherwise receive any such equity security or obligating such Subsidiary to grant, extend or enter into any such subscriptions, options, warrants, calls, commitments, rights agreements, or other similar agreements. There are no outstanding contractual obligations of any Subsidiary of the Company to repurchase, redeem, or otherwise acquire any of its capital stock or other equity interests. All of the shares of capital stock of each of the Subsidiaries of the Company (A) have been duly authorized and are validly issued, fully paid (to the extent required under the applicable governing documents) and nonassessable, and (B) are owned by the Company free and clear of any Encumbrance (other than Permitted Encumbrances), or agreement with respect thereto.

Section 2.3 Authority. The Company has all requisite corporate power and authority to execute and deliver this Agreement and to consummate the Contemplated Transactions and perform its respective obligations hereunder, subject only to obtaining the Company Stockholder Approval. The adoption, execution, delivery and performance of this Agreement and the approval of the consummation of the Contemplated Transactions have been recommended by, and have been duly and validly adopted and approved by a unanimous vote of, the Board of Directors of the Company. No other approval or consent of, or action by, the holders of the outstanding securities of the Company, other than the Company Stockholder Approval, is required in order for the Company to execute and deliver this Agreement and to consummate the Contemplated Transactions and perform its obligations hereunder. The Board of Directors of the Company has declared this Agreement advisable, has directed that this Agreement be submitted to the Company Stockholders for adoption and approval and has recommended that the Company Stockholders adopt and

approve this Agreement. Except for the Company Stockholder Approval and the filing of the Certificates of Merger with the Secretary of State of the State of Delaware, no other corporate proceeding on the part of the Company is necessary to authorize the adoption, execution, delivery and performance of this Agreement or to consummate the Mergers and the other Contemplated Transactions. This Agreement has been duly and validly executed and delivered by the Company, and (assuming due authorization, execution and delivery by the other parties hereto), constitutes the legal, valid and binding obligations of the Company, enforceable against the Company in accordance with its terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium, or other similar Laws relating to creditors' rights and general principles of equity.

Section 2.4 Non-Contravention; Consents.

(a) Except as set forth in Section 2.4(a) of the Company Disclosure Schedule, the execution and delivery of this Agreement by the Company does not, and the consummation by the Company of the Contemplated Transactions will not, (i) conflict with, or result in any violation or breach of, any provision of the Company Charter or the Company Bylaws, (ii) conflict with, or result in any violation or breach of, or constitute (with or without notice or lapse of time, or both) a default (or give rise to a right of termination, cancellation or acceleration of any obligation or loss of any material benefit) under, require a consent or waiver under, constitute a change in control under, require the payment of a penalty under or result in the imposition of any Encumbrance on the Company's assets under, any of the terms, conditions or provisions of any Company Material Contract, or other agreement, instrument or obligation to which the Company is a party or by which it or any of its properties or assets may be bound, or (iii) subject to obtaining the Company Stockholder Approval and subject to the consents, approvals and authorizations specified in clauses (i) through (v) of Section 2.4(b) having been obtained prior to the Effective Time and all filings and notifications described in Section 2.4(b) having been made, conflict with or violate any Law applicable to the Company or any of its properties or assets, except in the case of clauses (ii), and (iii) of this Section 2.4(a) for any such conflicts or violations, breaches, rights of termination, Encumbrances, penalties, defaults, terminations, cancellations, accelerations, losses, changes of control, or payments, that have not had, and would not reasonably be expected to result in, a Company Material Adverse Effect.

(b) No consent, approval, license, permit, order or authorization of, or registration, declaration, notice or filing with, any Governmental Authority is required by or with respect to the Company in connection with the execution and delivery of this Agreement by the Company or the consummation by the Company of the Contemplated Transactions, except for (i) obtaining the Company Stockholder Approval, (ii) the filing of the Certificates of Merger with the Delaware Secretary of State and appropriate corresponding documents with the appropriate authorities of other states in which the Company is qualified as a foreign corporation to transact business, (iii) any filings required to be made with the SEC in connection with this Agreement and the Contemplated Transactions (including the filing of the Registration Statement with the SEC in accordance with the Exchange Act), (iv) such consents, approvals, orders, authorizations, registrations, declarations, notices and filings as may be required under applicable state securities Laws, the rules and regulations of the NYSE MKT, and (v) such other consents, licenses, permits, orders, authorizations, filings, approvals and registrations which, if not obtained or made, have not had, and would not reasonably be expected to result in, a Company Material Adverse Effect.

(c) This Section 2.4 does not relate to (i) Tax Laws, which are governed exclusively by Section 2.13 and Section 2.14, (ii) ERISA or other Laws regarding employee benefit matters, which are governed exclusively by Section 2.14, (iii) Labor Laws, which are governed exclusively by Section 2.15, (iv) Environmental Laws, which are governed exclusively by Section 2.16, or (v) Anticorruption Laws, which are governed exclusively by Section 2.21.

Section 2.5 Financial Statements.

(a) Section 2.5(a) of the Company Disclosure Schedule includes true and complete copies of the Company's consolidated balance sheet as of December 31, 2015 (the "***Company Balance Sheet***") and December 31, 2014, and the related consolidated statements of operations, cash flows and stockholders equity for the twelve months ended December 31, 2015 and December 31, 2014, together with the notes

thereto (collectively, the "***Company Financial Statements***"). The Company Financial Statements (i) comply as to form in all material respects with the published rules and regulations of the SEC with respect thereto, (ii) were prepared in accordance with GAAP applied on a consistent basis (unless otherwise noted therein) throughout the periods indicated, and (iii) fairly present, in all material respects, the financial condition and operating results of the Company as of the dates and for the periods indicated therein.

(b) The Company maintains adequate disclosure controls and procedures designed to ensure that material information relating to the Company is made known to the Chief Executive Officer or President and the Chief Financial Officer of the Company by others within those entities.

(c) Since January 1, 2012, none of the Company or, to the Knowledge of the Company, any director, officer, employee, or internal or external auditor of the Company has received or otherwise had or obtained actual knowledge of any substantive material complaint, allegation, assertion or claim, whether written or oral, that the Company has engaged in questionable accounting or auditing practices.

(d) The Company maintains a system of internal accounting controls designed to provide reasonable assurance that: (i) transactions are executed in accordance with management's general or specific authorizations, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability, (iii) access to assets is permitted only in accordance with management's general or specific authorization, and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Since January 1, 2014, the Company has maintained internal control over financial reporting that provides reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP and there have been no instances of fraud, whether or not material, involving the management of the Company or other employees of the Company who have a significant role in the internal control over financial reporting of the Company.

Section 2.6 Absence of Changes. Since the date of the Company Balance Sheet, the Company has conducted its businesses in all material respects in the Ordinary Course of Business consistent with its past practices. Except as set forth on Section 2.6 of the Company Disclosure Schedule, after the date of the Company Balance Sheet and on or before the date hereof:

(a) there has not been any change, event, circumstance or condition to the Knowledge of the Company that, individually or in the aggregate, has had, or would reasonably be expected to have, a Company Material Adverse Effect;

(b) except as required as a result of a change in applicable Laws or GAAP or as disclosed in the notes to the Company Financial Statements, there has not been any material change in any method of accounting or accounting practice by the Company;

(c) there has not been any other action, event or occurrence that would have required the consent of Parent pursuant to Section 4.4(b) of this Agreement had such action, event or occurrence taken place after the execution and delivery of this Agreement;

(d) there has not been any: (i) grant of or increase in any severance or termination pay to any employee, director or other service provider of the Company, (ii) entry into any employment, consulting, deferred or equity compensation, retention, change in control, transaction bonus, severance or other similar plan or agreement (or any amendment to any such existing agreement) with any new or current employee, director or other service provider of the Company, (iii) change in the compensation, bonus or other benefits payable or to become payable to its directors, officers, employees or consultants, except in the Ordinary Course of Business consistent with past practice, or as required by any pre-existing plan or arrangement set forth in Section 2.6(d) of the Company Disclosure Schedule, (iv) action to accelerate the vesting or payment of any compensation or benefit to any employee or other service provider of the Company or its Subsidiaries, (v) adoption, modification or termination of any Company Employee Program other than as required by applicable Law, or (vi) termination of any of the officers or key employees of the Company;

(e) the Company has not acquired or sold, pledged, leased, encumbered or otherwise disposed of any material property or assets or agreed to do any of the foregoing;

(f) other than the grant of non-exclusive licenses in the Ordinary Course of Business, there has been no transfer (by way of a license or otherwise) of, or agreement to transfer to, any Person's rights to any of the Company Intellectual Property;

(g) there has been no notice delivered to the Company of any claim of ownership by a third party of any of the Company Intellectual Property, or of infringement by the Company of any Third Party Intellectual Property; and

(h) there has not been any binding agreement to do any of the foregoing.

Section 2.7 Title to Assets. The Company owns, and has good and valid title to, or, in the case of leased properties and assets, valid leasehold interests in, all tangible properties or assets and equipment used or held for use in its business or operations or purported to be owned by it. All of said assets are owned by the Company free and clear of any Encumbrances, except for: (i) any lien for current Taxes not yet due and payable or for Taxes that are being contested in good faith and for which adequate reserves have been made on the Company Balance Sheet, (ii) minor liens that have arisen in the Ordinary Course of Business and that do not (in any case or in the aggregate) materially detract from the value of the assets subject thereto or materially impair the operations of the Company, and (iii) Encumbrances described in Section 2.7 of the Company Disclosure Schedule.

Section 2.8 Properties.

(a) Section 2.8(a) of the Company Disclosure Schedule contains a complete and correct list, as of the date hereof, of the Company Leased Real Property, including with respect to each such Lease the date of such Lease and any material amendments thereto. With respect to each Company Lease, except as would not, individually or in the aggregate, have a Company Material Adverse Effect:

(i) the Company Leases and the Company Ancillary Lease Documents are valid and in full force and effect except to the extent they have previously expired or terminated in accordance with their terms. The Company has delivered to Parent full, complete and accurate copies of each of the Company Leases and all Company Ancillary Lease Documents described in Section 2.8(a)(i) of the Company Disclosure Schedule;

(ii) none of the Company Leased Real Property is subject to any Encumbrance other than a Permitted Encumbrance;

(iii) none of the Company, nor, to the Knowledge of the Company, any other party to any Company Leases or Company Ancillary Lease Documents is in breach or default, and, to the Knowledge of the Company, no event has occurred which, with notice or lapse of time, would constitute such a breach or default under the Company Leases or any Company Ancillary Lease Documents;

(iv) the Company has not assigned, transferred, conveyed, mortgaged, deeded in trust or encumbered any of its rights and interest in the leasehold or subleasehold under any of the Company Leases or any Company Ancillary Lease Documents in a manner that is material to the Company and that relates to the use or occupancy of all or any portion of the Company Leased Real Property.

(b) Except as would not reasonably be expected to have, individually or in the aggregate, a Company Material Adverse Effect, (i) the Company owns good title, free and clear of all Encumbrances, to all personal property and other non-real estate assets, in all cases excluding the Company Intellectual Property, necessary to conduct the Company Business, except for Permitted Encumbrances, and (ii) the Company, as lessee, has the right under valid and subsisting leases to use, possess and control all personal property leased by the Company as now used, possessed and controlled by the Company.

(c) The Company does not have any Company Owned Real Property.

Section 2.9 Intellectual Property.

(a) Section 2.9(a) of the Company Disclosure Schedule contains a complete and accurate list of all (i) Patents owned by the Company or used or exclusively licensed to the Company ("***Company Patents***"), registered and material unregistered Marks owned by the Company ("***Company Marks***") and registered Copyrights owned by the Company ("***Company Copyrights***"), (ii) licenses, sublicenses or other agreements under which the Company is granted rights by others in the Company Intellectual Property ("***Company In-Licenses***") (other than commercial off the shelf software or materials transfer agreements), and (iii) licenses, sublicenses or other agreements under which the Company has granted rights to others in the Company Intellectual Property ("***Company Out-Licenses***").

(b) With respect to the Company Intellectual Property (i) owned or purported to be owned by the Company, the Company exclusively owns such Company Intellectual Property, and (ii) licensed to the Company by a third party (other than commercial off the shelf software or materials transfer agreements), such Company Intellectual Property are the subject of a written license or other agreement; in the case of the foregoing clauses (i), and (ii) above, free and clear of all Encumbrances, other than Encumbrances resulting from the express terms of a Company License-In or Company License-Out or Permitted Encumbrances granted by the Company.

(c) To the Knowledge of the Company, all Company Patents, Company Marks and Company Copyrights are valid and enforceable.

(d) To the Knowledge of the Company, each Company Patent that has been issued by, or registered with, or is the subject of an application filed with, as applicable, the U.S. Patent and Trademark Office or any similar office or agency anywhere in the world was issued, registered, or filed, as applicable, with the correct inventorship and there has been no known misjoinder or nonjoinder of inventors.

(e) No Company Patent is now involved in any interference, reissue, re-examination or opposition proceeding.

(f) There are no claims pending or, to the Knowledge of the Company, threatened in writing against the Company or any of its employees alleging that the operation of the Company Business or any activity by the Company, or the manufacture, sale, offer for sale, importation, and/or use of any Company Product Candidate infringes or violates (or in the past infringed or violated) the rights of others in or to any Intellectual Property ("***Third Party Intellectual Property***") or constitutes a misappropriation of (or in the past constituted a misappropriation of) any subject matter of any Intellectual Property of any person or entity or that any Company Intellectual Property is invalid or unenforceable.

(g) To the Knowledge of the Company, neither the operation of the Company Business, nor any activity by the Company, nor manufacture, use, importation, offer for sale and/or sale of any Company Product Candidate infringes or violates (or in the past infringed or violated) any Third Party Intellectual Property or constitutes a misappropriation of (or in the past constituted a misappropriation of) any subject matter of any Third Party Intellectual Property.

(h) Except with respect to fees payable to third party licensors pursuant to the Company In-Licenses, the Company has no obligation to compensate any person for the use of any Intellectual Property. Except as set forth in Section 2.9(h) of the Company Disclosure Schedule, the Company has not entered into any agreement to indemnify any other person against any claim of infringement or misappropriation of any Intellectual Property. There are no settlements, covenants not to sue, consents, judgments, or orders or similar obligations that: (i) restrict the rights of the Company to use any Company Intellectual Property, (ii) restrict the Company Business, in order to accommodate a third party's Intellectual Property, or (iii) permit third parties to use any Company Intellectual Property (excluding any rights granted to any third parties pursuant to any of the Company Out-Licenses).

(i) All former and current employees, consultants and contractors of the Company who have been involved in the creation and/or development of any Company Intellectual Property have executed written instruments with the Company that assign to the Company, all rights, title and interest in and to any and

all Intellectual Property created and/or developed by such employee, consultant or contractor in the course of their employment or engagement with the Company.

(j) To the Knowledge of the Company, (i) there is no, nor has there been any, infringement or violation by any person or entity of any Company Intellectual Property owned by, or exclusively licensed to, the Company or the rights of the Company therein or thereto and (ii) there is no, nor has there been any, misappropriation by any person or entity of any Company Intellectual Property owned by, or exclusively licensed to, the Company or the subject matter thereof.

(k) The Company has taken reasonable security measures to protect the secrecy, confidentiality and value of all Trade Secrets owned by the Company or used or held for use by the Company in the Company Business (the "***Company Trade Secrets***").

(l) Following the Effective Time, the Surviving Entity will have substantially similar rights and privileges in the Company Intellectual Property as the Company had in the Company Intellectual Property immediately prior to the Effective Time.

Section 2.10 Material Contracts. Section 2.10 of the Company Disclosure Schedule is a correct and complete list of each currently effective Company Contract:

(a) the Company Leases and the Company Ancillary Lease Documents;

(b) for the purchase of materials, supplies, goods, services, equipment or other assets for annual payments by the Company of, or pursuant to which in the last year the Company paid, in the aggregate, $100,000 or more;

(c) for the sale of materials, supplies, goods, services, equipment or other assets for annual payments to the Company of, or pursuant to which in the last year the Company received, in the aggregate, $100,000 or more;

(d) that relates to any partnership, joint venture, strategic alliance or other similar Contract;

(e) relating to Indebtedness for borrowed money or the deferred purchase price of property (whether incurred, assumed, guaranteed or secured by any asset), except for Contracts relating to Indebtedness in an amount not exceeding $100,000 in the aggregate;

(f) any management, employment, severance, retention, transaction bonus, change in control, consulting or other similar Contract between: (i) the Company or any of its Subsidiaries, on the one hand, and (ii) any employee, director or other service provider of the Company or its Subsidiaries, on the other hand, other than any such Contract that is terminable "at will" or without any obligation in excess of $10,000 on the part of the Company or any of its Subsidiaries to make any severance, bonus, termination, change in control or similar payment or to provide any other benefit with a value in excess of $10,000 (other than benefits required to be provided by applicable Law);

(g) which by its terms limits in any respect (i) the localities in which all or any significant portion of the business and operations of the Company or any Affiliate of the Company (which will include Parent after the Effective Time), or (ii) the right of the Company or any Affiliate of the Company (which will include Parent after the Effective Time) to compete with any Person;

(h) in respect of any Company Intellectual Property that provides for annual payments of, or pursuant to which in the last year the Company paid or received, in the aggregate, $100,000 or more;

(i) containing any royalty, dividend or similar arrangement based on the revenues or profits of the Company;

(j) with any Governmental Authority;

(k) any Contract with (a) an executive officer or director of the Company or any of such executive officer's or director's immediate family members, (b) an owner of more than five percent (5%) of the voting power of the outstanding capital stock of the Company, or (c) to the Knowledge of the Company,

any "related person" (within the meaning of Item 404 of Regulation S-K under the Securities Act) of any such officer, director or owner (other than the Company);

(l) any agreement that gives rise to any material payment or benefit as a result of the performance of this Agreement or any of the other Contemplated Transactions;

(m) relating to the acquisition or disposition of any material interest in, or any material amount of, property or assets of the Company or for the grant to any Person of any preferential rights to purchase any of its assets, other than in the Ordinary Course of Business; or

(n) any other agreement (or group of related agreements) the performance of which requires aggregate payments to or from the Company in excess of $250,000.

The Company has delivered or made available to Parent accurate and complete (except for applicable redactions thereto) copies of all material written Company Contracts, including all amendments thereto. There are no material Company Contracts that are not in written form. Except as set forth on Section 2.10 of the Company Disclosure Schedule, neither the Company nor, to the Knowledge of the Company, any other party to a Company Material Contract (as defined below), has breached, violated or defaulted under, or received notice that it has breached, violated or defaulted under, any of the material terms or conditions of any of the agreements, contracts or commitments to which the Company is a party or by which it is bound of the type described in clauses (a) through (n) above or any Company Contract listed in Section 2.14 or Section 2.15 of the Company Disclosure Schedule (any such agreement, contract or commitment, a "***Company Material Contract***") in such manner as would permit any other party to cancel or terminate any such Company Material Contract, which has had or would reasonably be expected to have a Company Material Adverse Effect. As to the Company, as of the date of this Agreement, each Company Material Contract is valid, binding, enforceable and in full force and effect, subject to: (i) Laws of general application relating to bankruptcy, insolvency and the relief of debtors, and (ii) rules of Law governing specific performance, injunctive relief and other equitable remedies. The consummation of the Contemplated Transactions will not (either alone or upon the occurrence of additional acts or events) result in any material payment or payments becoming due from the Company or the Surviving Entity to any Person under any Company Material Contract or give any Person the right to terminate or materially alter the provisions of any Company Material Contract.

Section 2.11 Absence of Undisclosed Liabilities. The Company has no liability, Indebtedness, obligation, expense, claim, deficiency, guaranty or endorsement of any kind, whether accrued, absolute, contingent, matured or unmatured (whether or not required to be reflected in the financial statements in accordance with GAAP) (each a "***Liability***"), individually or in the aggregate, except for: (a) Liabilities reflected or reserved against in the most recent consolidated balance sheet of the Company (or the notes thereto) made available to Parent, (b) normal and recurring current Liabilities that have been incurred by the Company since the date of the Company Balance Sheet in the Ordinary Course of Business, none of which are material, (c) Liabilities for performance of obligations of the Company under Contracts (other than for breach thereof), (d) Liabilities described in Section 2.11 of the Company Disclosure Schedule or (e) Liabilities incurred in connection with the Contemplated Transactions.

Section 2.12 Compliance with Laws; Regulatory Compliance.

(a) The Company is in compliance with all Laws or Orders, except where any such failure to be in compliance has not had, or would not reasonably be expected to have, individually or in the aggregate, a Company Material Adverse Effect or would not reasonably be expected to prevent or materially impair the consummation of the Contemplated Transactions. No investigation, inquiry, proceeding or similar action by any Governmental Authority with respect to the Company is pending or, to the Knowledge of the Company, threatened in writing, nor has any Governmental Authority indicated in writing an intention to conduct the same which, in each case, would reasonably be expected to have a Company Material Adverse Effect.

(b) The Company holds all material Permits from the U.S. Food and Drug Administration (the "***FDA***") and any other Governmental Authority that is concerned with the quality, identity, strength, purity, safety, efficacy, or manufacturing of Company Product Candidates (any such Governmental Authority, a "***Company Regulatory Agency***"), necessary for the operating of the Company Business in

material compliance with applicable Laws (the "***Company Permits***"), including all Company Permits required under the Federal Food, Drug and Cosmetic Act of 1938, as amended, and the regulations of the FDA promulgated thereunder (the "***FDCA***"), the Public Health Service Act of 1944, as amended, and the regulations of the FDA promulgated thereunder (the "***PHSA***"), and any comparable Laws of other applicable jurisdictions. Except as has not had, and would not reasonably be expected to have, individually or in the aggregate, a Company Material Adverse Effect, all such Company Permits are valid, and in full force and effect. There has not occurred any violation of, default (with or without notice or lapse of time or both) under, or event giving to others any right of termination, amendment or cancellation of, with or without notice or lapse of time or both, any Company Permit except as has not had, and would not reasonably be expected to have, individually or in the aggregate, a Company Material Adverse Effect. The Company is in compliance in all material respects with the terms of all Company Permits, and no event has occurred that, to the Knowledge of the Company, would reasonably be expected to result in the revocation, cancellation, non-renewal or adverse modification of any Company Permit, except as has not had, and would not reasonably be expected to have, individually or in the aggregate, a Company Material Adverse Effect.

(c) None of the Company nor, to the Knowledge of the Company, any employee or agent thereof, has made any untrue statement of material fact or a fraudulent statement to the FDA or any other Company Regulatory Agency, or failed to disclose a material fact required to be disclosed to the FDA or other such Company Regulatory Agency, or committed an act, made a statement, or failed to make a statement, in each such case related to the Company Products Candidates, that, at the time such disclosure was made, would reasonably be expected to provide a basis for the FDA to invoke its policy with respect to "Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities," as set forth in 56 Fed. Reg. 46191 (Sept. 10, 1991) and any amendments thereto. None of the Company nor, to the Knowledge of the Company, any director, officer, employee or agent thereof, has engaged in any activity prohibited under U.S. federal or state criminal or civil health care Laws, including the U.S. federal Anti-Kickback Statute (42 U.S.C. §1320a-7b(b)), the Anti-Inducement Law (42 U.S.C. §1320a-7a(a)(5)), the False Claims Act (31 U.S.C. §§3729 *et seq.*), the Health Insurance Portability and Accountability Act (42 U.S.C. §1320d *et seq.*), as amended by the Health Information, Technology for Economic and Clinical Health Act of 2009, the civil monetary penalty laws (42 U.S.C. §1320a-7a), the FDCA, the PHSA, the regulations promulgated pursuant to such Laws, and any equivalent applicable Laws of other jurisdictions (each, a "***Health Care Law***"). There is no civil, criminal, administrative or other proceeding, notice or demand pending, received, or, to the Knowledge of the Company, threatened in writing against the Company that asserts an alleged violation, in any material respect, of any Health Care Law. None of the Company or its employees or agents, has, under any Health Care Law, been debarred, excluded, suspended, or otherwise determined to be ineligible to participate in any health care programs of any Governmental Authority, convicted of any crime, or to the Knowledge of the Company, engaged in any conduct that has resulted in any such debarment, exclusion, suspension, ineligibility, or conviction, including any debarment mandated by 21 U.S.C. §335a(a) or any similar Law or authorized by 21 U.S.C. §335a(b) or any similar Law. The Company is not party to any consent decrees (including plea agreements) or similar actions to which the Company or, to the Knowledge of the Company, any director, officer, employee or agent thereof, are bound or which relate to Company Product Candidates.

(d) The Company is in compliance in all material respects with all applicable Laws enforced by, and Orders of, the FDA and any other Company Regulatory Agency with respect to the labeling, storing, testing, development, manufacture, packaging and distribution of the Company Product Candidates. To the Knowledge of the Company, all required pre-clinical toxicology studies conducted by or on behalf of the Company, and all clinical trials sponsored by the Company are being conducted in compliance in all material respects with applicable Company Permits and applicable Laws, including the applicable requirements of the FDCA and the regulations of the FDA promulgated thereunder, including any applicable requirements of 21 C.F.R. Parts 50, 54, 56, 58, 210, 211, and 312. The material results of any such studies, tests and trials, and all other material information related to such studies, tests and trials, have been made available to Parent. Each clinical trial conducted by or, to the Knowledge of the Company, on behalf of the Company with respect to Company Product Candidates has been conducted in

compliance in all material respects with all applicable Laws, including FDCA and the regulations of the FDA promulgated thereunder, including any applicable requirements of 21 C.F.R. Parts 50, 54, 56, 58, 210, 211 and 312. The Company has filed with applicable Company Regulatory Agencies all material notices required to be filed (and made available to Parent copies thereof) of adverse drug experiences, injuries or deaths relating to clinical trials conducted by or on behalf of the Company with respect to the Company Product Candidates.

(e) The Company has not received any written notice that the FDA or any other Company Regulatory Agency has initiated, or threatened in writing to initiate, any action to suspend any clinical trial, suspend or terminate any Investigational New Drug Application or similar Health Care Permit sponsored by the Company, or otherwise materially restrict the pre-clinical research or clinical study of any Company Product Candidate or any drug product being developed by or on behalf of the Company, or to recall, suspend or otherwise materially restrict the development or manufacture of any Company Product Candidate, except as has not had, and would not reasonably be expected to have, individually or in the aggregate, a Company Material Adverse Effect. To the Knowledge of the Company, there is no act, omission, event or circumstance that would reasonably be expected to give rise to any such action or event.

(f) With respect to the Company Business and the Company Product Candidates, the Company has made available to Parent for review copies of any and all material regulatory applications and submissions (and any supplements or amendments thereto) under applicable Health Care Laws; Company Permits; written notices of inspectional observations and establishment inspection reports of Company Regulatory Agencies; notifications, communications, correspondence, registrations, master files, and/or other filings made to, received from or otherwise conducted with a Company Regulatory Agency, reports or other documents of the Company that assert or address lack of material compliance with any Health Care Laws, or the likelihood or timing of marketing approval of any Company Product Candidates; records and other materials maintained to comply with applicable Health Care Laws (*e.g.*, regarding good laboratory practice, good clinical practice, and good manufacturing practice); and records that are necessary or advisable in order to obtain Company Permits or other approvals from Company Regulatory Agencies. Such books and records are complete and correct in all material respects and have been maintained in accordance with sound business practices, including the maintenance of an adequate system of internal controls.

Section 2.13 Taxes and Tax Returns.

(a) Each material Tax Return required to be filed by, or on behalf of, the Company has been timely filed (taking into account any valid extensions). Each such Tax Return is true, correct and complete in all material respects.

(b) The Company (i) has timely paid (or has had paid on its behalf) all material Taxes due and owing, whether or not shown as due on any Tax Return, and (ii) has withheld and remitted to the appropriate Taxing Authority, or properly set aside, all material Taxes required to be withheld and paid in connection with any amounts paid or owing to or collected from any employee, independent contractor, supplier, creditor, stockholder, partner, member or other third party, and all Forms W-2 and 1099 required with respect thereto have been properly completed and timely filed.

(c) The unpaid Taxes of the Company (i) did not, as of December 31, 2015, exceed the aggregate reserve for Tax liability (rather than any reserve for deferred Taxes established to reflect timing differences between book and Tax income) set forth on the face of the Company Balance Sheet (rather than in any notes thereto), and (ii) will not exceed that reserve as adjusted for operations and transactions through the Closing Date in accordance with the past custom and practice of the Company in filing its Tax Returns.

(d) There are no material liens for Taxes (other than Taxes not yet due and payable) upon any of the assets of the Company.

(e) The Company has not waived any statute of limitations with respect to any material Taxes or agreed to any extension of the period for assessment or collection of any Taxes.

(f) There is no material Tax claim, audit, suit, or administrative or judicial Tax proceeding now pending or presently in progress or threatened in writing with respect to a material Tax Return of the Company.

(g) The Company has not distributed stock of a corporation, or has had its stock distributed, in a transaction purported or intended to be governed in whole or in part by Sections 355 or 361 of the Code within the prior five (5) year period ending on the date of this Agreement.

(h) The Company is not a party to or has any obligation under any Tax sharing agreement (whether written or not) or any Tax indemnity or other Tax allocation agreement or arrangement (other than any such agreement entered into in the Ordinary Course of Business and the primary purpose of which does not relate to Taxes).

(i) The Company (A) is not nor has ever been a member of a group of corporations that files or has filed (or has been required to file) consolidated, combined, or unitary Tax Returns, or (B) has no liability for the Taxes of any person under Treasury Regulations Section 1.1502-6 (or any similar provision of state, provincial, local or non-U.S. Law), as a transferee or successor by contract.

(j) The Company has not been a United States real property holding corporation within the meaning of Section 897(c)(2) of the Code at any time during the applicable period specified in Section 897(c)(1)(A)(ii) of the Code.

(k) The Company has not participated in a listed transaction within the meaning of Treasury Regulations Section 1.6011-4(b) (or any predecessor provision).

(l) The Company will not be required to include any material item of income in, or exclude any material item of deduction from, taxable income for any taxable period (or portion thereof) ending after the Closing Date as a result of any:

(i) change in method of accounting or use of an improper method of accounting for a taxable period ending on or prior to the Closing Date;

(ii) "closing agreement" as described in Section 7121 of the Code (or any corresponding or similar provision of state, local or non-U.S. income Tax Law) executed prior to the Closing;

(iii) installment sale or open transaction disposition made prior to the Closing;

(iv) prepaid amount received prior to the Closing Date; or

(v) election with respect to income from the discharge of indebtedness under Section 108(i) of the Code.

(m) No written claim has been made by any Taxing Authority in a jurisdiction where Company does not file Tax Returns that the Company is or may be subject to Tax or required to file a Tax Return.

(n) Notwithstanding any provision in this Agreement to the contrary, the Company does not make any representation or warranty as to the existence, amount or any other aspect of any net operating or capital loss, carryovers, carryforwards of business or other tax credits, tax basis, earnings and profits, or any other tax attribute (whether of the Company or any of its Subsidiaries), and the representations contained in Section 2.13 and Section 2.14 (the "***Company Tax Representations***") shall constitute the sole and exclusive representations and warranties by the Company with respect to Taxes or Tax Returns. Other than the Company Tax Representations in Section 2.13(h) and Section 2.13(l), no Company Tax Representation shall be deemed to apply directly or indirectly with respect to any taxable period after the Closing.

Section 2.14 Employee Benefit Programs.

(a) Section 2.14(a) of the Company Disclosure Schedule sets forth a list of every Employee Program maintained by the Company (the "***Company Employee Programs***"). The Company has made available to Parent correct and complete copies (or, if a plan is not written, a written description) of all Company Employee Programs and amendments thereto in each case that are in effect as of the date hereof, and, to

the extent applicable, (i) all related trust agreements, funding arrangements and insurance contracts now in effect, (ii) the most recent determination letter or opinion letter received regarding the tax-qualified status of each Company Employee Program intended to be so qualified, (iii) the most recent financial statements for each Company Employee Program, (iv) the Form 5500 Annual Returns/Reports for the most recent plan year for each Company Employee Program, (v) the current summary plan description for each Company Employee Program, (vi) all actuarial valuation reports related to any Company Employee Programs, and (vii) all material correspondence involving any Company Employee Program sent to or received from any Governmental Authority.

(b) Each Company Employee Program that is intended to qualify under Section 401(a) of the Code has received a favorable determination or approval letter from the IRS with respect to such qualification, or may rely on an opinion letter issued by the IRS with respect to a prototype plan adopted in accordance with the requirements for such reliance, or has time remaining for application to the IRS for a determination of the qualified status of such Company Employee Program for any period for which such Company Employee Program would not otherwise be covered by an IRS determination. To the Knowledge of the Company, no event or omission has occurred that would reasonably be expected to cause any Company Employee Program to lose its qualification or otherwise fail to satisfy the relevant requirements to provide tax-favored benefits under the applicable Code Section (including without limitation Code Sections 105, 125, 401(a) and 501(c)(9)).

(c) Each Company Employee Program has been administered in all material respects in accordance with its terms and in accordance with ERISA, the Code and other applicable Laws. With respect to any Company Employee Program, there has been no (i) non-exempt "prohibited transaction," as defined in Section 406 of ERISA or Code Section 4975, (ii) breach of fiduciary duty, or (iii) non-deductible contribution. No litigation or governmental administrative proceeding (or investigation) or other proceeding (other than those relating to routine claims for benefits) is pending or, to the Knowledge of the Company, threatened in writing with respect to any such Company Employee Program. All payments and/or contributions required to have been made (under the provisions of any agreements or other governing documents or applicable Laws) with respect to all Company Employee Programs, for all periods prior to the Closing Date, either have been made or have been accrued or otherwise adequately reserved on the Company Financial Statements.

(d) No Company Employee Program has been or is subject to Section 302 or Title IV of ERISA and/or Code Section 412, including a Multiemployer Plan, and the Company does not have any liability for any Employee Program that is subject to Title IV of ERISA and that is or has been maintained, contributed to, or required to be contributed to by an ERISA Affiliate of the Company. None of the Company Employee Programs provides (or has ever provided) health care or any other welfare benefits to any employees after their employment is terminated (other than as required by part 6 of subtitle B of title I of ERISA or state continuation Laws to which the former employee pays all required premiums) or has ever promised to provide such post-termination benefits.

(e) Each Company Employee Program may be amended, terminated, or otherwise discontinued by Parent after the Effective Time in accordance with its terms without material liability to the Company, Parent or any of their respective Subsidiaries.

(f) The Company is not a party to any written (i) agreement with any stockholders, director, or employee of the Company (A) the benefits of which are contingent, or the terms of which are materially altered, upon the occurrence of a transaction involving the Company of the nature of any of the Contemplated Transactions, (B) providing any guaranteed period of employment or compensation guarantee, or (C) providing severance benefits after the termination of employment or service of such employee or director, or (ii) agreement or plan binding the Company, including any stock option plan, stock appreciation right plan, restricted stock plan, stock purchase plan, or severance benefit plan, any of the benefits of which shall be increased, or the vesting of the benefits of which shall be accelerated, by the occurrence of any of the Contemplated Transactions or the value of any of the benefits of which shall be calculated on the basis of any of the Contemplated Transactions.

(g) Neither the execution of this Agreement nor the consummation of the transactions contemplated by this Agreement will, either alone or in combination with another event (such as termination of employment), (i) entitle any current or former employee or other service provider to any compensatory payment or benefit, including any bonus, retention, severance, retirement or job security payment or benefit, or (ii) enhance any benefits or accelerate the time or payment or vesting or trigger any payment or funding (through a grantor trust or otherwise) of compensation or benefits under, or increase the amount payable or trigger any other obligation under, any Company Employee Program or otherwise.

(h) Except as set forth in Section 2.14(h) of the Company Disclosure Schedule, there is no Contract, plan, agreement or arrangement covering any employee of or other service provider to the Company or its Subsidiaries that, by itself or collectively, would give rise to any parachute payment subject to Section 280G of the Code, nor has the Company or its Subsidiaries made any such payment, and the consummation of the transactions contemplated herein shall not obligate the Company or its Subsidiaries to make any parachute payment subject to Section 280G of the Code.

(i) Each Company Employee Program that is a "nonqualified deferred compensation plan" within the meaning of Section 409A of the Code has been operated and maintained in material compliance with all operational and documentary requirements of Section 409A of the Code since January 1, 2005, based upon a good faith, reasonable interpretation of Section 409A of the Code, the regulations and other guidance issued thereunder. No stock option granted under any Company Stock Option Plan has any exercise price that was less than the fair market value of the underlying stock as of the date the option was granted, or has any feature for the deferral of compensation other than the deferral of recognition of income until the later of exercise or disposition of such option. The Company has no Liability to gross-up or indemnify any individual with respect to any Tax imposed pursuant to Code Sections 409A or 4999.

(j) For purposes of this Section 2.14:

(i) An entity "maintains" an Employee Program if such entity sponsors, contributes to, or provides benefits under or through such Employee Program, or has any obligation (by agreement or under applicable Laws) to contribute to or provide benefits under or through such Employee Program, or if such Employee Program provides benefits to or otherwise covers or has covered employees of such entity (or their spouses, dependents, or beneficiaries).

(ii) An entity is an "ERISA Affiliate" of the Company if it would have ever been considered a single employer with the Company under ERISA Section 4001(b) or Code Section 414(b), (c), or (m).

(k) Notwithstanding any other provision of this Agreement, the representations and warranties contained in Section 2.14(a) through Section 2.14(j) constitute the sole and exclusive representations and warranties of the Company relating to ERISA and other Laws relating to employee benefits matters.

Section 2.15 Labor and Employment Matters.

(a) The Company is not a party to, or otherwise bound by, any collective bargaining agreement, contract, or other written agreement with a labor union or labor organization. The Company is not subject to, and during the past three (3) years there has not been, any charge, demand, petition, organizational campaign, or representation proceeding seeking to compel, require, or demand it to bargain with any labor union or labor organization nor is there pending any labor strike or lockout involving the Company.

(b) Except as would not, individually or in the aggregate, have a Company Material Adverse Effect, (i) the Company is in compliance with all applicable material Laws respecting labor, employment, fair employment practices, work safety and health, terms and conditions of employment, and wages and hours, including Title VII of the Civil Rights Act of 1964, as amended, the Equal Pay Act of 1967, as amended, the Age Discrimination in Employment Act of 1967, as amended, the Americans with Disabilities Act, as amended, the Fair Labor Standards Act, as amended, and its state and local law equivalents, and the related rules and regulations adopted by those federal and state agencies responsible for the administration of such Laws, and other than normal accruals of wages during regular payroll

cycles, there are no arrearages in the payment of wages, (ii) the Company is not delinquent in any payments to any employee or to any independent contractors, consultants, temporary employees, leased employees or other servants or agents employed or used with respect to the operation of the Company Business and classified by the Company as other than an employee or compensated other than through wages paid by the Company through its respective payroll department ("***Company Contingent Workers***"), for any wages, salaries, commissions, bonuses, fees or other direct compensation due with respect to any services performed for it to the date hereof or amounts required to be reimbursed to such employees or Company Contingent Workers, (iii) there are no grievances, complaints or charges with respect to employment or labor matters (including allegations of employment discrimination, retaliation or unfair labor practices) pending or, to the Knowledge of the Company, threatened in writing against the Company in any judicial, regulatory or administrative forum or under any private dispute resolution procedure, (iv) all employees of the Company are employed at-will and no such employees are subject to any contract with the Company or any policy or practice of the Company providing for right of notice of termination of employment or the right to receive severance payments or similar benefits upon the termination of employment by the Company, (v) the Company has not experienced a "plant closing," "business closing," or "mass layoff" as defined in the Worker Adjustment and Retraining Notification Act (the "***WARN Act***") or any similar Law affecting any site of employment of the Company or one or more facilities or operating units within any site of employment or facility of the Company, and, during the ninety (90)-day period preceding the date hereof, no employee has suffered an "employment loss," as defined in the WARN Act, with respect to the Company, and (vi) there are no pending or, to the Knowledge of the Company, threatened or reasonably anticipated claims or actions against the Company under any workers' compensation policy or long-term disability policy.

(c) Notwithstanding any other provision of this Agreement, the representations and warranties contained in Section 2.15(a) and Section 2.15(b) constitute the sole and exclusive representations and warranties of the Company relating to collective bargaining matters and compliance with Labor Laws.

Section 2.16 Environmental Matters. Except as would not, individually or in the aggregate, have a Company Material Adverse Effect:

(a) the Company is in compliance with all Environmental Laws applicable to their operations and use of the Company Leased Real Property;

(b) the Company has not generated, transported, treated, stored, or disposed of any Hazardous Material, except in material compliance with all applicable Environmental Laws, and there has been no Release or threat of Release of any Hazardous Material by the Company at or on the Company Leased Real Property that requires reporting, investigation or remediation by the Company pursuant to any Environmental Law; and

(c) the Company has not (i) received written notice under the citizen suit provisions of any Environmental Law, or (ii) been subject to or, to the Knowledge of the Company, threatened in writing with any governmental or citizen enforcement action with respect to any Environmental Law.

(d) Notwithstanding any other provision of this Agreement, the representations and warranties contained in Section 2.16 constitute the sole and exclusive representations and warranties of the Company relating to Environmental Laws.

Section 2.17 Insurance. The Company has delivered or made available to Parent accurate and complete copies of all material insurance policies relating to the business, assets, liabilities and operations of the Company, as of the date hereof. Each of such insurance policies is in full force and effect and the Company is in compliance in all material respects with the terms thereof. Other than customary end of policy notifications from insurance carriers, since January 1, 2015, the Company has not received any written notice regarding any actual or possible: (i) cancellation or invalidation of any insurance policy, (ii) refusal or denial of any coverage, reservation of rights or rejection of any material claim under any insurance policy, or (iii) material adjustment in the amount of the premiums payable with respect to any insurance policy.

Section 2.18 Books and Records. Each of the minute and record books of the Company has been made available to Parent and contains, in all material respects, complete and accurate minutes of all meetings

of, and copies of all bylaws and resolutions passed by, or consented to in writing by, the directors (and any committees thereof) and stockholders of the Company, since January 1, 2013 and which are required to be maintained in such books under applicable Laws; all such meetings were duly called and held and all such bylaws and resolutions were duly passed or enacted.

Section 2.19 Transactions with Affiliates. Section 2.19 of the Company Disclosure Schedule describes any material transactions or relationships, since January 1, 2012, between, on one hand, the Company and, on the other hand, any (a) executive officer or director of the Company or any of such executive officer's or director's immediate family members, (b) owner of more than five percent (5%) of the voting power of the outstanding capital stock of the Company, or (c) to the Knowledge of the Company, any "related person" (within the meaning of Item 404 of Regulation S-K under the Securities Act) of any such officer, director or owner (other than the Company) in each of the case of (a), (b), or (c) that is of the type that would be required to be disclosed under Item 404 of Regulation S-K under the Securities Act.

Section 2.20 Legal Proceedings; Orders.

(a) Except as set forth in Section 2.20 of the Company Disclosure Schedule, there is no pending Legal Proceeding, and, to the Knowledge of the Company, no Person has threatened in writing to commence any Legal Proceeding: (i) that involves the Company, any director or officer of the Company (in his or her capacity as such) or any of the material assets owned or used by the Company, or (ii) that challenges, or that may have the effect of preventing, delaying, making illegal or otherwise interfering with, the Mergers or any of the other Contemplated Transactions. To the Knowledge of the Company, no event has occurred, and no claim, dispute or other condition or circumstance exists, that will, or that would reasonably be expected to, give rise to or serve as a basis for the commencement of any such Legal Proceeding.

(b) There is no order, writ, injunction, judgment or decree to which the Company, or any of the material assets owned or used by the Company, is subject. To the Knowledge of the Company, no executive officer of the Company is subject to any order, writ, injunction, judgment or decree that prohibits such officer or other employee from engaging in or continuing any conduct, activity or practice relating to the Company Business or to any material assets owned or used by the Company.

Section 2.21 Illegal Payments. Neither the Company nor, to the Company's Knowledge, any of its directors, officers, employees or agents have, directly or indirectly, made, offered, promised or authorized any payment or gift of any money or anything of value to or for the benefit of any "***foreign official***" (as such term is defined in the U.S. Foreign Corrupt Practices Act (the "***FCPA***"), foreign political party or official thereof or candidate for foreign political office for the purpose of, in violation of applicable Laws: (i) influencing any act or decision of such foreign official in his, her or its official capacity, including a decision to fail to perform his, her or its official duties or functions, or (ii) inducing such foreign official to use his, her or its influence with any Governmental Authority to affect or influence any act or decision of such Governmental Authority, or to obtain an improper advantage in order to assist the Company or any other Person in obtaining or retaining business for or with, or directing business to, the Company. Notwithstanding any other provision of this Agreement, the representations and warranties contained in this Section 2.21 constitute the sole and exclusive representations and warranties of the Company relating to compliance with Anticorruption Laws.

Section 2.22 Inapplicability of Anti-takeover Statutes. The Board of Directors of the Company has taken and will take all actions necessary to ensure that the restrictions applicable to business combinations contained in Section 203 of the DGCL are, and will be, inapplicable to the execution, delivery and performance of this Agreement and to the consummation of the Mergers and the other Contemplated Transactions.

Section 2.23 Vote Required. The affirmative vote (or action by written consent) of (i) the holders of 65% of the Company Class A Common Stock and Company Preferred Stock, voting together as a single class (on an as-converted to Company Common Stock basis), and the holders of a majority of the outstanding shares of the Company Class A Common Stock (collectively, the "***Company Stockholder Approval***"), is the only vote or consent of the holders of any class or series of Company Capital Stock necessary to adopt or

approve this Agreement, and approve the Merger, the Contemplated Transactions and the other matters set forth in Section 5.2(a) of this Agreement.

Section 2.24 No Financial Advisor. Except as set forth on Section 2.24 of the Company Disclosure Schedule, no broker, finder or investment banker is entitled to any brokerage fee, finder's fee, opinion fee, success fee, transaction fee or other fee or commission in connection with the Mergers or any of the other Contemplated Transactions based upon arrangements made by or on behalf of the Company.

Section 2.25 Disclosure; Company Information. None of the information provided by the Company specifically for inclusion in the Proxy Statement will, at the time of the mailing of the Proxy Statement or any amendment or supplement thereto or at the time of the Parent Stockholder Meeting, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading. None of the information provided by the Company to be included in the Form S-4 Registration Statement will, at the time the Form S-4 Registration Statement is filed with the SEC or at the time it becomes effective under the Securities Act, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading. Notwithstanding the foregoing, no representation is made by the Company with respect to the information that has been or will be supplied by Parent, Merger Sub Corp, Merger Sub LLC or any of their Representatives for inclusion in the Proxy Statement.

ARTICLE 3
REPRESENTATIONS AND WARRANTIES OF PARENT

Parent represents and warrants to the Company as follows, except as set forth in (x) the Parent SEC Reports filed after March 11, 2015 and prior to the date hereof (other than any disclosures contained or referenced therein under the captions "Risk Factors," "Forward-Looking Statements," "Quantitative and Qualitative Disclosures About Market Risk" and any other disclosures contained or referenced therein of information, factors or risks that are cautionary, predictive or forward-looking in nature), or (y) the written disclosure schedule delivered by Parent to the Company (the "***Parent Disclosure Schedule***"). The Parent Disclosure Schedule shall be arranged in parts and subparts corresponding to the numbered and lettered sections and subsections contained in this Article 3. The disclosures in any part or subpart of the Parent Disclosure Schedule shall qualify other Sections and subsections in this Article 3 only to the extent it is clear from the face of the disclosure that such disclosure is applicable to such other Sections and subsections.

Section 3.1 Organization.

(a) Parent is a corporation validly existing and in good corporate standing under the Laws of the State of Delaware. Parent has all requisite corporate power and authority to own, lease and operate all of its properties and assets and to carry on its business as it is now being conducted. Parent is duly licensed or qualified to do business and is in corporate good standing in each jurisdiction in which the nature of the business conducted by it or the character or location of the properties and assets owned, leased, or operated by it makes such licensing or qualification necessary, except where the failure to be so licensed or qualified and in corporate good standing would not, either individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect. The Parent Charter and Parent Bylaws, copies of which have previously been made available to the Company, are true, correct and complete copies of such documents as currently in effect and Parent is not in violation of any provision thereof. Other than the Parent Charter and Parent Bylaws, Parent is not a party to or bound by or subject to any stockholder agreement or other similar agreement governing the voting or transfer of the capital stock of the Parent and is not subject to a stockholder rights plan.

(b) Merger Sub Corp is a corporation duly incorporated, validly existing and in good corporate standing under the Laws of the State of Delaware. Merger Sub Corp was formed solely for the purpose of engaging in the Contemplated Transactions. All of the issued and outstanding capital stock of Merger Sub Corp, which consists of 1,000 shares of Common Stock, $0.0001 par value, is validly issued, fully paid and non-assessable, and is owned, beneficially and of record, by Parent, free and clear of any claim, lien, Encumbrance, or agreement with respect thereto. Except for obligations and liabilities incurred in connection with its incorporation and the Contemplated Transactions, Merger Sub Corp has not, and will

not have, incurred, directly or indirectly, any obligations or liabilities or engaged in any business activities of any type or kind whatsoever or entered into any agreements or arrangements with any Person. The Certificate of Incorporation and Bylaws of Merger Sub Corp, copies of which have previously been made available to the Company, are true, correct and complete copies of such documents as currently in effect and Merger Sub Corp is not in violation of any provision thereof.

(c) Merger Sub LLC is a limited liability company duly formed, validly existing and in good standing under the Laws of the State of Delaware. Merger Sub LLC was formed solely for the purpose of engaging in the Contemplated Transactions. All of the issued and outstanding membership interests of Merger Sub LLC are validly issued, fully paid and non-assessable, and are owned, beneficially and of record, by Parent, free and clear of any claim, lien, Encumbrance, or agreement with respect thereto. Except for obligations and liabilities incurred in connection with its incorporation and the Contemplated Transactions, Merger Sub LLC has not, and will not have, incurred, directly or indirectly, any obligations or liabilities or engaged in any business activities of any type or kind whatsoever or entered into any agreements or arrangements with any Person. The Certificate of Formation and Limited Liability Company Operating Agreement of Merger Sub LLC, copies of which have previously been made available to the Company, are true, correct and complete copies of such documents as currently in effect and Merger Sub LLC is not in violation of any provision thereof.

(d) Each of Parent's Subsidiaries is a corporation or legal entity, validly existing and, if applicable, in good standing under the Laws of the jurisdiction of its organization. Each of Parent's Subsidiaries has all requisite corporate power or other power and authority to own, lease and operate all of its properties and assets and to carry on its business as it is now being conducted. Each of Parent's Subsidiaries is duly licensed or qualified to do business in each jurisdiction in which the nature of the business conducted by it or the character or location of the properties and assets owned, leased, or operated by it makes such licensing or qualification necessary, except where the failure to be so licensed or qualified and in good standing would not, either individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect. The certificate of incorporation and bylaws or equivalent organizational documents of each of Parent's Subsidiaries (other than Merger Sub Corp and Merger Sub LLC), copies of which have previously been made available to the Company, are true, correct and complete copies of such documents as currently in effect and such Subsidiaries of Parent are not in violation of any provision thereof.

Section 3.2 Capitalization.

(a) As of the date hereof, the authorized capital stock of Parent consists of 100,000,000 shares of Parent Common Stock and 1,000,000 shares Parent Preferred Stock. As of September 30, 2016, there are 66,423,033 shares of Parent Common Stock issued and outstanding and no shares of Parent Preferred Stock issued and outstanding. As of the date hereof, there are no shares of Parent Common Stock and no shares of Parent Preferred Stock held in the treasury of Parent. Parent has no shares of Parent Common Stock or Parent Preferred Stock reserved for issuance other than as described herein or in the Parent Disclosure Schedule. The outstanding shares of Parent Common Stock have been duly authorized, validly issued, fully paid and nonassessable, and were not issued in violation of the material terms of any agreement binding upon Parent at the time at which they were issued and were issued in compliance with the Parent Charter and Parent Bylaws and all applicable securities Laws.

(b) Except for the Parent Stock Option Plan and the Parent Warrants, Parent does not have and is not bound by any outstanding subscriptions, options, warrants, calls, commitments, rights agreements, or agreements of any character calling for Parent to issue, deliver, or sell, or cause to be issued, delivered, or sold any shares of Parent Common Stock or any other equity security of Parent or any Subsidiary of Parent or any securities convertible into, exchangeable for, or representing the right to subscribe for, purchase, or otherwise receive any shares of Parent Common Stock or any other equity security of Parent or any Subsidiary of Parent or obligating Parent or any such Subsidiary to grant, extend, or enter into any such subscriptions, options, warrants, calls, commitments, rights agreements, or any other similar

agreements. There are no registration rights, repurchase or redemption rights, anti-dilutive rights, voting agreements, voting trusts, preemptive rights or restrictions on transfer relating to any capital stock of Parent.

(c) As of the date hereof, there are 1,547,006 shares of Parent Common Stock issuable upon exercise of all outstanding Parent Stock Options, subject to adjustment on the terms set forth in the Parent Stock Option Plan. Section 3.2(c) of the Parent Disclosure Schedule sets forth a true, correct and complete list, as of the date hereof, of (i) the name of the holder of each Parent Stock Option, (ii) the date each Parent Stock Option was granted, (iii) the number, issuer and type of securities subject to each such Parent Stock Option, (iv) the expiration date of each such Parent Stock Option, (v) the vesting schedule of each such Parent Stock Option, (vi) the price at which each such Parent Stock Option (or each component thereof, if applicable) may be exercised, (vii) the number of shares of Parent Common Stock issuable upon the exercise of such, or upon the conversion of all securities issuable upon the exercise of such, Parent Stock Options, and (viii) whether and to what extent the exercisability of each Parent Stock Option will be accelerated upon consummation of the Contemplated Transactions or any termination of employment thereafter.

(d) As of the date hereof, there are no shares of Parent Common Stock subject to lapsing forfeiture rights under outstanding Parent Restricted Stock Awards. Section 3.2(d) of the Parent Disclosure Schedule sets forth a true, correct and complete list, as of the date hereof, of (i) the name of the holder of each Parent Restricted Stock Award, (ii) the number of shares of Parent Common Stock subject to the award, (iii) the vesting schedule of each such Parent Restricted Stock Award, and (iv) whether and to what extent the vesting of each Parent Restricted Stock Award will be accelerated upon consummation of the Contemplated Transactions or any termination of employment thereafter.

(e) Section 3.2(e) of the Parent Disclosure Schedule lists each Subsidiary of Parent, other than Merger Sub Corp and Merger Sub LLC, as of the date hereof and indicates for each such Subsidiary as of such date (i) the percentage and type of equity securities owned or controlled, directly or indirectly, by Parent, and (ii) the jurisdiction of incorporation or organization. No Subsidiary of Parent has or is bound by any outstanding subscriptions, options, warrants, calls, commitments, rights agreements, or agreements of any character calling for it to issue, deliver, or sell, or cause to be issued, delivered, or sold any of its equity securities or any securities convertible into, exchangeable for, or representing the right to subscribe for, purchase or otherwise receive any such equity security or obligating such Subsidiary to grant, extend or enter into any such subscriptions, options, warrants, calls, commitments, rights agreements, or other similar agreements. There are no outstanding contractual obligations of any Subsidiary of Parent to repurchase, redeem, or otherwise acquire any of its capital stock or other equity interests. All of the shares of capital stock of each of the Subsidiaries of Parent (A) have been duly authorized and are validly issued, fully paid (to the extent required under the applicable governing documents) and nonassessable, and (B) are owned by Parent free and clear of any claim, lien, Encumbrance (other than Permitted Encumbrances), or agreement with respect thereto.

(f) The Parent Common Stock to be issued in Merger 1 will, when issued in accordance with the provisions of this Agreement, have been duly authorized, and be validly issued, fully paid and nonassessable.

Section 3.3 Authority. Each of Parent and Merger Sub Corp has all requisite corporate power and authority to execute and deliver this Agreement and to consummate the Contemplated Transactions and perform its respective obligations hereunder, subject only to obtaining Parent Stockholder Approvals. Merger Sub LLC has all requisite limited liability company power and authority to execute and deliver this Agreement and to consummate the Contemplated Transactions and perform its respective obligations hereunder. The adoption, execution, delivery and performance of this Agreement and the approval of the consummation of the Contemplated Transactions have been duly and validly adopted and approved by each of the boards of directors of Parent and Merger Sub Corp by unanimous vote of the directors participating in such votes. The adoption, execution, delivery and performance of this Agreement and the approval of the consummation of the Contemplated Transactions have been duly and validly adopted and approved by the Managing Member of Merger Sub LLC. The Board of Directors of Parent has recommended that the stockholders of Parent approve

the Parent Stockholder Proposals at the Parent Stockholder Meeting. The Board of Directors of Merger Sub Corp has declared this Agreement advisable and has recommended that the sole stockholder of Merger Sub Corp adopt this Agreement and approve the Merger. Except for Parent Stockholder Approvals and the filing of the Certificates of Merger with the Secretary of State of the State of Delaware for Merger 1 and Merger 2, no other corporate or other proceeding on the part of Parent, Merger Sub Corp or Merger Sub LLC is necessary to authorize the adoption, execution, delivery and performance of this Agreement or to consummate the Mergers and the other Contemplated Transactions. This Agreement has been duly and validly executed and delivered by Parent, Merger Sub Corp and Merger Sub LLC, and (assuming due authorization, execution and delivery by the other parties hereto), constitutes the legal, valid and binding obligations of Parent, Merger Sub Corp and Merger Sub LLC, enforceable against Parent, Merger Sub Corp, Merger Sub LLC in accordance with its terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium, or other similar Laws relating to creditors' rights and general principles of equity.

Section 3.4 Non-Contravention; Consents.

(a) The execution and delivery of this Agreement by Parent, Merger Sub Corp and Merger Sub LLC does not, and the consummation by Parent, Merger Sub Corp and Merger Sub LLC of the Contemplated Transactions will not, (i) conflict with, or result in any violation or breach of, any provision of the Parent Charter or Parent Bylaws or of the charter, bylaws, or other organizational document of any Subsidiary of Parent, (ii) conflict with, or result in any violation or breach of, or constitute (with or without notice or lapse of time, or both) a default (or give rise to a right of termination, cancellation or acceleration of any obligation or loss of any material benefit) under, require a consent or waiver under, constitute a change in control under, require the payment of a penalty under or result in the imposition of any Encumbrances on Parent's or any of its Subsidiaries' assets under, any of the terms, conditions or provisions of any Parent Material Contract or other agreement, instrument or obligation to which Parent or any of its Subsidiaries is a party or by which any of them or any of their properties or assets may be bound, or (iii) subject to obtaining Parent Stockholder Approval and subject to the consents, approvals and authorizations specified in clauses (i) through (v) of Section 3.4(b) having been obtained prior to the Effective Time and all filings and notifications described in Section 3.4(b) having been made, conflict with or violate any Law applicable to Parent or any of its Subsidiaries or any of its or their properties or assets, except in the case of clauses (ii), and (iii) of this Section 3.4(a) for any such conflicts, violations, breaches, rights of termination, Encumbrances, penalties, defaults, terminations, cancellations, accelerations, losses, changes of control, or payments, that have not had, and would not reasonably be expected to result in, a Parent Material Adverse Effect.

(b) No consent, approval, license, permit, order or authorization of, or registration, declaration, notice or filing with, any Governmental Authority is required by or with respect to Parent or any of its Subsidiaries in connection with the execution and delivery of this Agreement by Parent, Merger Sub Corp and Merger Sub LLC or the consummation by Parent, Merger Sub Corp and Merger Sub LLC of the Contemplated Transactions, except for (i) obtaining the Parent Stockholder Approval, (ii) the filing of the Certificates of Merger with the Delaware Secretary of State and appropriate corresponding documents with the appropriate authorities of other states in which Parent is qualified as a foreign corporation to transact business, (iii) any filings required to be made with the SEC in connection with Parent Stockholder Meeting, this Agreement and the Contemplated Transactions (including (A) the filing of the Proxy Statement with the SEC in accordance with the Exchange Act, and (B) the filing of a Form D Notice of Exempt Offering of Securities or other related filings in reliance on an exemption provided in Regulation D of the Securities Act), (iv) such consents, approvals, orders, authorizations, registrations, declarations, notices and filings as may be required under applicable state securities Laws, the rules and regulations of the NYSE MKT, and (v) such other consents, licenses, permits, orders, authorizations, filings, approvals and registrations which, if not obtained or made, have not had, and would not reasonably be expected to result in, a Parent Material Adverse Effect.

(c) This Section 3.4 does not relate to (i) Tax Laws, which are governed exclusively by Section 3.13 and Section 3.14, (ii) ERISA or other Laws regarding employee benefit matters, which are governed exclusively by Section 3.14, (iii) Labor Laws, which are governed exclusively by Section 3.15,

(iv) Environmental Laws, which are governed exclusively by Section 3.16, or (v) Anticorruption Laws, which are governed exclusively by Section 3.21.

Section 3.5 SEC Filings; Financial Statements.

(a) Parent has filed or furnished, as applicable, on a timely basis all forms, statements, certifications, reports and documents required to be filed or furnished by it with the SEC under the Exchange Act or the Securities Act since January 1, 2012 (the forms, statements, reports and documents filed or furnished since January 1, 2012 and those filed or furnished subsequent to the date hereof, including any amendments thereto, the "***Parent SEC Reports***"). Each of the Parent SEC Reports, at the time of its filing or being furnished complied in all material respects with the applicable requirements of the Securities Act, the Exchange Act and the Sarbanes-Oxley Act, and any rules and regulations promulgated thereunder applicable to the Parent SEC Reports, or, if not yet filed or furnished, will to the Knowledge of Parent comply in all material respects with the applicable requirements of the Securities Act, the Exchange Act and the Sarbanes-Oxley Act, and any rules and regulations promulgated thereunder applicable to the Parent SEC Reports. As of their respective dates (or, if amended prior to the date hereof, as of the date of such amendment), the Parent SEC Reports did not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements made therein, in light of the circumstances in which they were made, not misleading, and any Parent SEC Reports filed or furnished with the SEC subsequent to the date hereof will not to Parent's knowledge, contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements made therein, in light of the circumstances in which they were made, not misleading.

(b) As of the date of this Agreement, Parent has timely responded to all comment letters of the staff of the SEC relating to the Parent SEC Reports, and the SEC has not advised Parent that any final responses are inadequate, insufficient or otherwise non-responsive. Parent has made available to the Company true, correct and complete copies of all comment letters, written inquiries and enforcement correspondence between the SEC, on the one hand, and Parent and any of its Subsidiaries, on the other hand, occurring since January 1, 2015 and will, reasonably promptly following the receipt thereof, make available to the Company any such correspondence sent or received after the date hereof. To the Knowledge of Parent, as of the date of this Agreement, none of the Parent SEC Reports is the subject of ongoing SEC review or outstanding SEC comment.

(c) (i) Each of the consolidated financial statements (including, in each case, any notes or schedules thereto) included in or incorporated by reference into the Parent SEC Reports fairly present, in all material respects, the consolidated financial position of Parent and its consolidated Subsidiaries as of its date, or, in the case of the Parent SEC Reports filed after the date hereof, will fairly present, in all material respects, the consolidated financial position of Parent and its consolidated Subsidiaries as of its date and each of the consolidated statements of income, changes in stockholders' equity (deficit) and cash flows included in or incorporated by reference into the Parent SEC Reports (including any related notes and schedules) fairly presents in all material respects, the results of operations, retained earnings (loss) and changes in financial position, as the case may be, of such companies for the periods set forth therein (except as indicated in the notes thereto, and in the case of unaudited statements, as may be permitted by the rules of the SEC, and subject to normal year-end audit adjustments that will not be material in amount or effect), in each case in accordance with GAAP consistently applied during the periods involved, except as may be noted therein, or in the case of Parent SEC Reports filed after the date hereof, will fairly present, in all material respects, the results of operations, retained earnings (loss) and changes in financial position, as the case may be, of such companies for the periods set forth therein (except as indicated in the notes thereto, and in the case of unaudited statements, as may be permitted by the rules of the SEC, and subject to normal year-end audit adjustments that will not be material in amount or effect), in each case in accordance with GAAP consistently applied during the periods involved, except as may be noted therein (the "***Parent Financial Statements***").

(d) Parent has designed and maintains a system of internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act) sufficient to provide reasonable assurance

regarding the reliability of financial reporting, and, to the Knowledge of Parent, such system is effective in providing such assurance. Parent (i) maintains disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act) designed to ensure that information required to be disclosed by Parent in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified by the SEC's rules and forms and, to the Knowledge of Parent, such disclosure controls and procedures are effective (ii) has disclosed, based on the most recent evaluation of its chief executive officer and its chief financial officer prior to the date hereof, to Parent's auditors and the Audit Committee of the Board of Directors of Parent (and made summaries of such disclosures available to the Company) (A) (i) any significant deficiencies in the design or operation of internal control over financial reporting that would adversely affect in any material respect Parent's ability to record, process, summarize and report financial information, and (ii) any material weakness in internal control over financial reporting, and (B) any fraud, whether or not material, that involves management or other employees who have a significant role in Parent's internal controls over financial reporting. Each of Parent and its Subsidiaries have materially complied with or substantially addressed such deficiencies, material weaknesses or fraud. Parent is in compliance in all material respects with all effective provisions of the Sarbanes-Oxley Act.

(e) Each of the principal executive officer of Parent and the principal financial officer of Parent (or each former principal executive officer of Parent and each former principal financial officer of Parent, as applicable) has made all certifications required by Rule 13a-14 or 15d-14 under the Exchange Act or Sections 302 and 906 of the Sarbanes-Oxley Act and the rules and regulations of the SEC promulgated thereunder with respect to the Parent SEC Reports, and the statements contained in such certifications were true and correct on the date such certifications were made. For purposes of this Section 3.5(e), "principal executive officer" and "principal financial officer" has the meanings given to such terms in the Sarbanes-Oxley Act. None of Parent or any of its Subsidiaries has outstanding, or has arranged any outstanding, "extensions of credit" to directors or executive officers in violation of Section 402 of the Sarbanes-Oxley Act.

(f) Neither Parent or any of its Subsidiaries nor, to the Knowledge of Parent, any director, officer, employee, or internal or external auditor of Parent or any of its Subsidiaries has received or otherwise had or obtained actual Knowledge of any substantive material complaint, allegation, assertion or claim, whether written or oral, that Parent or any of its Subsidiaries has engaged in questionable accounting or auditing practices.

Section 3.6 Absence of Changes. Since December 31, 2015, Parent and each of its Subsidiaries have conducted their respective businesses in all material respects in the Ordinary Course of Business consistent with their past practices. Except as set forth (x) in Parent SEC Reports, and (y) on Section 3.6 of the Parent Disclosure Schedule, after December 31, 2015 and on or before the date hereof:

(a) there has not been any change, event, circumstance or condition to the Knowledge of Parent that, individually or in the aggregate, has had, or would reasonably be expected to have, a Parent Material Adverse Effect;

(b) except as required as a result of a change in applicable Laws or GAAP or as disclosed in the notes to the Parent Financial Statements, there has not been any material change in any method of accounting or accounting practice by Parent or any of its Subsidiaries;

(c) there has not been any other action, event or occurrence that would have required the consent of the Company pursuant to Section 4.4(a) of this Agreement had such action, event or occurrence taken place after the execution and delivery of this Agreement;

(d) there has not been any (i) grant of or increase in any severance or termination pay to any employee, director or other service provider of Parent or its Subsidiaries, (ii) entry into any employment, consulting, deferred or equity compensation, retention, change in control, transaction bonus, severance or other similar plan or agreement (or any amendment to any such existing agreement) with any new or current employee, director or other service provider of Parent or any of its Subsidiaries, (iii) change in the compensation, bonus or other benefits payable or to become payable to its directors, officers,

employees or consultants, except in the Ordinary Course of Business consistent with past practice, or as required by any pre-existing plan or arrangement set forth in Section 3.6(d) of the Parent Disclosure Schedule, (iv) action to accelerate the vesting or payment of any compensation or benefit to any Parent Employee, (v) adoption, modification or termination of any Parent Employee Program other than as required by applicable Law, or (vi) termination of any officers or key employees of Parent or any of its Subsidiaries; or

(e) Parent has not acquired or sold, pledged, leased, encumbered or otherwise disposed of any material property or assets or agreed to do any of the foregoing;

(f) Other than the grant of non-exclusive licenses in the Ordinary Course of Business, there has been no transfer (by way of a license or otherwise) of, or agreement to transfer to, any Person's rights to any of the Parent Intellectual Property;

(g) there has been no notice delivered to Parent of any claim of ownership by a third party of any of the Parent Intellectual Property, or of infringement by Parent of any Third Party Intellectual Property; and

(h) there has not been any binding agreement to do any of the foregoing.

Section 3.7 Title to Assets. Each of Parent and its Subsidiaries owns, and has good and valid title to, or, in the case of leased properties and assets, valid leasehold interests in, all tangible properties or assets and equipment used or held for use in its business or operations or purported to be owned by it. All of said assets are owned by Parent or a Parent Subsidiary free and clear of any Encumbrances, except for: (i) any lien for current Taxes not yet due and payable or for Taxes that are being contested in good faith and for which adequate reserves have been made on Parent's audited consolidated balance sheet at December 31, 2015, (ii) minor liens that have arisen in the Ordinary Course of Business and that do not (in any case or in the aggregate) materially detract from the value of the assets subject thereto or materially impair the operations of Parent and its Subsidiaries, taken as a whole, and (iii) Encumbrances described in Section 3.7 of the Parent Disclosure Schedule.

Section 3.8 Properties.

(a) Section 3.8(a) of the Parent Disclosure Schedule contains a complete and correct list, as of the date hereof, of the Parent Leased Real Property, including with respect to each such Lease the date of such Lease and any material amendments thereto. With respect to each Parent Lease, except as would not, individually or in the aggregate, have a Parent Material Adverse Effect:

(i) the Parent Leases and the Parent Ancillary Lease Documents are valid and in full force and effect except to the extent they have previously expired or terminated in accordance with their terms. Parent and its Subsidiaries have delivered to Parent full, complete and accurate copies of each of the Parent Leases and all Parent Ancillary Lease Documents described in Section 3.8(a) of the Parent Disclosure Schedule;

(ii) none of the Parent Leased Real Property is subject to any Encumbrance other than a Permitted Encumbrance;

(iii) none of Parent or its Subsidiaries, nor, to the Knowledge of Parent, any other party to any Parent Leases or Parent Ancillary Lease Documents is in breach or default, and, to the Knowledge of Parent, no event has occurred which, with notice or lapse of time, would constitute such a breach or default under the Parent Leases or any Parent Ancillary Lease Documents;

(iv) none of Parent or its Subsidiaries has assigned, transferred, conveyed, mortgaged, deeded in trust or encumbered any of its rights and interest in the leasehold or subleasehold under any of the Parent Leases or any Parent Ancillary Lease Documents in a manner that is material to Parent and that relates to the use or occupancy of all or any portion of the Parent Leased Real Property.

(b) Except as would not reasonably be expected to have, individually or in the aggregate, a Parent Material Adverse Effect, (i) Parent and its Subsidiaries own good title, free and clear of all Encumbrances, to all personal property and other non-real estate assets, in all cases excluding the Parent Intellectual Property, necessary to conduct the Parent Business, except for Permitted Encumbrances, and

(ii) Parent and its Subsidiaries, as lessees, have the right under valid and subsisting leases to use, possess and control all personal property leased by Parent and its Subsidiaries as now used, possessed and controlled by Parent or its Subsidiaries, as applicable.

(c) None of Parent or its Subsidiaries has any Parent Owned Real Property.

Section 3.9 Intellectual Property.

(a) Section 3.9(a) of the Parent Disclosure Schedule contains a complete and accurate list of all (i) Patents owned by Parent or any of its Subsidiaries or exclusively licensed to Parent or any of its Subsidiaries ("***Parent Patents***"), registered and material unregistered Marks owned by Parent or any of its Subsidiaries ("***Parent Marks***") and registered owned by Parent or any of its Subsidiaries ("***Parent Copyrights***"), (ii) licenses, sublicenses or other agreements under which Parent or any of its Subsidiaries is granted rights by others in the Parent Intellectual Property ("***Parent In-Licenses***") (other than commercial off the shelf software or materials transfer agreements), and (iii) licenses, sublicenses or other agreements under which Parent or any of its Subsidiaries has granted rights to others in the Parent Intellectual Property ("***Parent Out-Licenses***").

(b) With respect to the Parent Intellectual Property (i) owned or purported to be owned by Parent or any of its Subsidiaries, Parent or one of its Subsidiaries exclusively owns such Parent Intellectual Property, and (ii) licensed to Parent or any of its Subsidiaries by a third party (other than commercial off the shelf software or materials transfer agreements), such Parent Intellectual Property are the subject of a written license or other agreement; in the case of the foregoing clauses (i), and (ii) above, free and clear of all Encumbrances, other than Encumbrances resulting from the express terms of a Parent License-In or Parent License-Out or Permitted Encumbrances granted by Parent or one of its Subsidiaries.

(c) To the Knowledge of Parent, all Parent Patents, Parent Marks and Parent Copyrights are valid and enforceable.

(d) To the Knowledge of Parent, each Parent Patent that has been issued by, or registered with, or is the subject of an application filed with, as applicable, the U.S. Patent and Trademark Office or any similar office or agency anywhere in the world was issued, registered, or filed, as applicable, with the correct inventorship and there has been no known misjoinder or nonjoinder of inventors.

(e) No Parent Patent is now involved in any interference, reissue, re-examination or opposition proceeding.

(f) There are no pending or, to the Knowledge of Parent, threatened claims against Parent or any of its Subsidiaries or any of their employees alleging that any of the operation of the Parent Business or any activity by Parent or its Subsidiaries, or the manufacture, sale, offer for sale, importation, and/or use of any Parent Product Candidate infringes or violates (or in the past infringed or violated) any Third Party Intellectual Property or constitutes a misappropriation of (or in the past constituted a misappropriation of) any subject matter of any Intellectual Property of any person or entity or that any Parent Intellectual Property is invalid or unenforceable.

(g) To the Knowledge of Parent, neither the operation of the Parent Business, nor any activity by Parent or any of its Subsidiaries, nor manufacture, use, importation, offer for sale and/or sale of any Parent Product infringes or violates (or in the past infringed or violated) any Third Party Intellectual Property or constitutes a misappropriation of (or in the past constituted a misappropriation of) any subject matter of any Third Party Intellectual Property.

(h) Except with respect to fees payable to third party licensors pursuant to the Parent In-Licenses, none of Parent or any of its Subsidiaries has any obligation to compensate any person for the use of any Intellectual Property. Except as set forth in Section 3.9(h) of the Parent Disclosure Schedule, neither Parent nor any of its Subsidiaries has entered into any agreement to indemnify any other person against any claim of infringement or misappropriation of any Intellectual Property. There are no settlements, covenants not to sue, consents, judgments, or orders or similar obligations that: (i) restrict Parent's or any of its Subsidiaries' rights to use any Parent Intellectual Property, (ii) restrict the Parent Business, in order

to accommodate a third party's Intellectual Property, or (iii) permit third parties to use any Parent Intellectual Property (excluding any rights granted to any third parties pursuant to the Parent Out-Licenses).

(i) All former and current employees, consultants and contractors of Parent and its Subsidiaries who have been involved in the creation and/or development of any Parent Intellectual Property have executed written instruments with Parent or one or more of its Subsidiaries that assign to Parent all rights, title and interest in and to any and all Intellectual Property created and/or developed by such employee, consultant or contractor in the course of their employment or engagement with Parent or the applicable Subsidiary.

(j) To the Knowledge of Parent, (i) there is no, nor has there been any, infringement or violation by any person or entity of any Parent Intellectual Property owned by, or exclusively licensed to, Parent or any of its Subsidiaries, or the rights of Parent or any of its Subsidiaries therein or thereto and (ii) there is no, nor has there been any, misappropriation by any person or entity of any Parent Intellectual Property owned by, or exclusively licensed to, Parent or any of its Subsidiaries, or the subject matter thereof.

(k) Parent and each of its Subsidiaries has taken reasonable security measures to protect the secrecy, confidentiality and value of all Trade Secrets owned by Parent or any of its Subsidiaries or used or held for use by Parent or any of its Subsidiaries in the Parent Business (the "***Parent Trade Secrets***").

(l) Following the Effective Time, the Surviving Entity will have substantially similar rights and privileges in the Parent Intellectual Property as Parent had in the Parent Intellectual Property immediately prior to the Effective Time.

Section 3.10 Material Contracts. Section 3.10 of the Parent Disclosure Schedule is a correct and complete list of each currently effective Parent Contract:

(a) relating to the lease of real property by Parent or any of its Subsidiaries;

(b) for the purchase of materials, supplies, goods, services, equipment or other assets for annual payments by Parent or any of its Subsidiaries of, or pursuant to which in the last year Parent or any of its Subsidiaries paid, in the aggregate, $100,000 or more;

(c) for the sale of materials, supplies, goods, services, equipment or other assets for annual payments to Parent or any of its Subsidiaries of, or pursuant to which in the last year Parent or any of its Subsidiaries received, in the aggregate, $100,000 or more;

(d) that relates to any partnership, joint venture, strategic alliance or other similar Contract;

(e) relating to Indebtedness for borrowed money or the deferred purchase price of property (whether incurred, assumed, guaranteed or secured by any asset), except for Contracts relating to Indebtedness in an amount not exceeding $100,000 in the aggregate;

(f) any management, employment, severance, retention, transaction bonus, change in control, consulting or other similar Contract between: (i) Parent or any of its Subsidiaries, on the one hand, and (ii) any employee, director or other service provider of Parent or its Subsidiaries, on the other hand, other than any such Contract that is terminable "at will" or without any obligation in excess of $10,000 on the part of Parent or any of its Subsidiaries to make any severance, bonus, termination, change in control or similar payment or to provide any other benefit with a value in excess of $10,000 (other than benefits required to be provided by applicable Law);

(g) which by its terms limits in any respect (i) the localities in which all or any significant portion of the business and operations of Parent or any Affiliate of Parent (which will include the Surviving Entity after the Effective Time), or (ii) the right of Parent or any Affiliate of Parent (which will include the Surviving Entity after the Effective Time) to compete with any Person;

(h) in respect of any Parent Intellectual Property that provides for annual payments of, or pursuant to which in the last year Parent or any of its Subsidiaries paid or received, in the aggregate, $100,000 or more;

(i) containing any royalty, dividend or similar arrangement based on the revenues or profits of Parent or any of its Subsidiaries;

(j) with any Governmental Authority;

(k) any Contract with (a) an executive officer or director of Parent or any of its Subsidiaries or any of such executive officer's or director's immediate family members, (b) an owner of more than five percent (5%) of the voting power of the outstanding capital stock of Parent, or (c) to the Knowledge of Parent, any "related person" (within the meaning of Item 404 of Regulation S-K under the Securities Act) of any such officer, director or owner (other than Parent or its Subsidiaries);

(l) any agreement that gives rise to any material payment or benefit as a result of the performance of this Agreement or any of the other Contemplated Transactions;

(m) relating to the acquisition or disposition of any material interest in, or any material amount of, property or assets of Parent or any of its Subsidiaries or for the grant to any Person of any preferential rights to purchase any of their assets, other than in the Ordinary Course of Business; or

(n) any other agreement (or group of related agreements) the performance of which requires aggregate payments to or from Parent or any of its Subsidiaries in excess of $250,000.

Parent has delivered or made available to the Company accurate and complete (except for applicable redactions thereto) copies of all material written Parent Contracts, including all amendments thereto. There are no material Parent Contracts that are not in written form. Except as set forth on Section 3.10 of the Parent Disclosure Schedule, neither Parent nor any Subsidiary of Parent has, nor to the Knowledge of Parent, has any other party to a Parent Material Contract (as defined below), breached, violated or defaulted under, or received notice that it has breached, violated or defaulted under, any of the terms or conditions of any of the agreements, contracts or commitments to which Parent or its Subsidiaries is a party or by which it is bound of the type described in clauses (a) through (n) above or any Parent Contract listed in Section 3.14 or Section 3.15 of the Parent Disclosure Schedule (any such agreement, contract or commitment, a "***Parent Material Contract***") in such manner as would permit any other party to cancel or terminate any such Parent Material Contract, which has had or would reasonably be expected to have a Parent Material Adverse Effect. As to Parent and its Subsidiaries, as of the date of this Agreement, each Parent Material Contract is valid, binding, enforceable and in full force and effect, subject to: (i) Laws of general application relating to bankruptcy, insolvency and the relief of debtors, and (ii) rules of Law governing specific performance, injunctive relief and other equitable remedies. The consummation of the Contemplated Transactions will not (either alone or upon the occurrence of additional acts or events) result in any material payment or payments becoming due from Parent to any Person under any Parent Material Contract or give any Person the right to terminate or alter the provisions of any Parent Material Contract.

Section 3.11 Absence of Undisclosed Liabilities. As of the date hereof, neither Parent nor any Subsidiary of Parent has any Liability, individually or in the aggregate, except for: (a) Liabilities reflected or reserved against in the most recent consolidated balance sheet of Parent (or notes thereto) made available to the Company, (b) normal and recurring current Liabilities that have been incurred by Parent since the date of Parent's audited consolidated balance sheet at December 31, 2015 in the Ordinary Course of Business, none of which are material, (c) Liabilities for performance of obligations of Parent or any Subsidiary of Parent under Contracts (other than for breach thereof), (d) Liabilities described in Section 3.11 of the Parent Disclosure Schedule, or (e) Liabilities incurred in connection with the Contemplated Transactions.

Section 3.12 Compliance with Laws; Regulatory Compliance.

(a) Each of Parent and each of its Subsidiaries is in compliance with all Laws or Orders, except where any such failure to be in compliance has not had, or would not reasonably be expected to have, individually or in the aggregate, a Parent Material Adverse Effect or would not reasonably be expected to prevent or materially impair the consummation of the Contemplated Transactions. No investigation, inquiry, proceeding or similar action by any Governmental Authority with respect to Parent or any of its Subsidiaries is pending or, to the Knowledge of Parent, threatened in writing, nor has any Governmental

Authority indicated in writing an intention to conduct the same which, in each case, would reasonably be expected to have a Parent Material Adverse Effect.

(b) Each of Parent and each of its Subsidiaries holds all material Permits from the FDA and any other Governmental Authority that is concerned with the quality, identity, strength, purity, safety, efficacy or manufacturing of Parent Product Candidates (any such Governmental Authority, a "***Parent Regulatory Agency***") necessary for the operating of the Parent Businesses in material compliance with applicable Laws (the "***Parent Permits***"), including all Parent Permits required under the FDCA and the PHSA and any comparable Laws of other applicable jurisdictions. Except as has not had, and would not reasonably be expected to have, individually or in the aggregate, a Parent Material Adverse Effect, all such Parent Permits are valid, and in full force and effect. There has not occurred any violation of, default (with or without notice or lapse of time or both) under, or event giving to others any right of termination, amendment or cancellation of, with or without notice or lapse of time or both, any Parent Permit except as has not had, and would not reasonably be expected to have, individually or in the aggregate, a Parent Material Adverse Effect. Each of Parent and each of its Subsidiaries is in compliance in all material respects with the terms of all Parent Permits, and no event has occurred that, to the Knowledge of Parent, would reasonably be expected to result in the revocation, cancellation, non-renewal or adverse modification of any Parent Permit, except as has not had, and would not reasonably be expected to have, individually or in the aggregate, a Parent Material Adverse Effect.

(c) None of Parent or its Subsidiaries nor, to the Knowledge of Parent, any employee or agent thereof, has made any untrue statement of material fact or a fraudulent statement to the FDA or any other Parent Regulatory Agency, or failed to disclose a material fact required to be disclosed to the FDA or other such Parent Regulatory Agency, or committed an act, made a statement, or failed to make a statement, in each such case related to the Parent Product Candidates, that, at the time such disclosure was made, would reasonably be expected to provide a basis for the FDA to invoke its policy with respect to "Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities," as set forth in 56 Fed. Reg. 46191 (Sept. 10, 1991) and any amendments thereto. None of Parent or its Subsidiaries nor, to the Knowledge of Parent, any director, officer, employee or agent thereof, has engaged in any activity prohibited under any Health Care Law. There is no civil, criminal, administrative or other proceeding, notice or demand pending, received, or, to the Knowledge of Parent, threatened in writing against Parent or any of its Subsidiaries that asserts an alleged violation, in any material respect, of any Health Care Law. None of Parent or any of its Subsidiaries or any employee or agent thereof, has under any Health Care Law, been debarred, excluded, suspended, or otherwise determined to be ineligible to participate in any health care programs of any Governmental Authority, convicted of any crime, or, to the Knowledge of Parent, engaged in any conduct that has resulted in any such debarment, exclusion, suspension, ineligibility, or conviction, including any debarment mandated by 21 U.S.C. §335a(a) or any similar Law or authorized by 21 U.S.C. §335a(b) or any similar Law. Neither Parent nor any of its Subsidiaries is a party to any consent decrees (including plea agreements) or similar actions to which Parent or any of its Subsidiaries or, to the Knowledge of Parent, any director, officer, employee or agent thereof, are bound or which relate to Parent Product Candidates.

(d) Each of Parent and each of its Subsidiaries is in compliance in all material respects with all applicable Laws enforced by, and Orders of, the FDA and any other Parent Regulatory Agency with respect to the labeling, storing, testing, development, manufacture, packaging and distribution of the Parent Product Candidates. To the Knowledge of Parent, all required pre-clinical toxicology studies conducted by or on behalf of Parent or its Subsidiaries and all clinical trials sponsored by Parent or any other Subsidiary are being conducted in compliance in all material respects with applicable Company Permits and applicable Laws, including, the applicable requirements of the FDCA and the regulations of the FDA promulgated thereunder, including, any applicable requirements of 21 C.F.R. Parts 50, 54, 56, 58, 210, 211, and 312. The material results of any such studies, tests and trials, and all other material information related to such studies, tests and trials, have been made available to the Company. Each clinical trial conducted by or, to the Knowledge of Parent, on behalf of Parent or any of its Subsidiaries with respect to Parent Product Candidates has been conducted in compliance in all material respects with all applicable Laws, including FDCA and the regulations of the FDA promulgated thereunder, including,

any applicable requirements of 21 C.F.R. Parts 50, 54, 56, 58, 210, 211, and 312. Each of Parent and its Subsidiaries has filed with applicable Parent Regulatory Agencies all material notices required to be filed (and made available to the Company copies thereof) of adverse drug experiences, injuries or deaths relating to clinical trials conducted by or on behalf of Parent or any of its Subsidiaries with respect to the Parent Product Candidates.

(e) None of Parent or its Subsidiaries has received any written notice that the FDA or any other Parent Regulatory Agency has initiated, or threatened in writing to initiate, any action to suspend any clinical trial, suspend or terminate any Investigational New Drug Application or similar Health Care Permit sponsored by Parent or any of its Subsidiaries or otherwise materially restrict the pre-clinical research or clinical study of any Parent Product Candidate or any drug product being developed by or on behalf of Parent or any of its Subsidiaries, or to recall, suspend or otherwise materially restrict the development or manufacture of any Parent Product Candidate, except as has not had, and would not reasonably be expected to have, individually or in the aggregate, a Parent Material Adverse Effect. To the Knowledge of Parent, there is no act, omission, event or circumstance that would reasonably be expected to give rise to any such action.

(f) With respect to the Parent Business and the Parent Product Candidates, Parent and its Subsidiaries have made available to the Company for review copies of any and all material regulatory applications and submissions (and any supplements or amendments thereto) under applicable Health Care Laws, Company Permits, written notices of inspectional observations, and establishment inspection reports of Parent Regulatory Agencies, notifications, communications, correspondence, registrations, master files, and/or other filings made to, received from or otherwise conducted with a Parent Regulatory Agency, reports or other documents of Parent or its Subsidiaries that assert or address lack of material compliance with any Health Care Laws, or the likelihood or timing of marketing approval of any Parent Product Candidates, records and other materials maintained to comply with applicable Health Care Laws (e.g. regarding good laboratory practice, good clinical practice, and good manufacturing practice), and records that are necessary or advisable in order to obtain Parent Permits or other approvals from Parent Regulatory Agencies. Such books and records are complete and correct in all material respects and have been maintained in accordance with sound business practices, including the maintenance of an adequate system of internal controls.

Section 3.13 Taxes and Tax Returns.

(a) Each material Tax Return required to be filed by, or on behalf of, Parent or any of its Subsidiaries, and each material Tax Return in which Parent or any of its Subsidiaries was required to be included, has been timely filed (taking into account any valid extensions). Each such Tax Return is true, correct and complete in all material respects.

(b) Parent and each of its Subsidiaries (i) has timely paid (or has had paid on its behalf) all material Taxes due and owing, whether or not shown as due on any Tax Return, and (ii) has withheld and remitted to the appropriate Taxing Authority, or properly set aside, all material Taxes required to be withheld and paid in connection with any amounts paid or owing to or collected from any employee, independent contractor, supplier, creditor, stockholder, partner, member or other third party, and all Forms W-2 and 1099 required with respect thereto have been properly completed and timely filed.

(c) The unpaid Taxes of Parent and its Subsidiaries (A) did not, as of December 31, 2015, exceed the reserve for Tax liability (rather than any reserve for deferred Taxes established to reflect timing differences between book and Tax income) set forth on the face of the Parent Financial Statements (rather than in any notes thereto), and (B) will not exceed that reserve as adjusted for operations and transactions through the Closing Date in accordance with the past custom and practice of Parent and its Subsidiaries in filing their Tax Returns.

(d) There are no material liens for Taxes (other than Taxes not yet due and payable) upon any of the assets of Parent or any of its Subsidiaries.

(e) None of Parent or any of its Subsidiaries has waived any statute of limitations with respect to any material Taxes or agreed to any extension of the period for assessment or collection of any Taxes.

(f) There is no material Tax claim, audit, suit, or administrative or judicial Tax proceeding now pending or presently in progress or threatened in writing with respect to a material Tax Return of Parent or any of its Subsidiaries.

(g) None of Parent or any of its Subsidiaries has distributed stock of a corporation, or has had its stock distributed, in a transaction purported or intended to be governed in whole or in part by Sections 355 or 361 of the Code within the five (5) year period ending on the date of this Agreement.

(h) None of Parent or any of its Subsidiaries is party to or has any obligation under any Tax sharing agreement (whether written or not) or any Tax indemnity or other Tax allocation agreement or arrangement (other than any such agreement entered into in the Ordinary Course of Business and the primary purpose of which does not relate to Taxes).

(i) None of Parent or any of its Subsidiaries (A) is or has ever been a member of a group of corporations that files or has filed (or has been required to file) consolidated, combined, or unitary Tax Returns, other than a group the common parent of which was Parent, or (B) has any liability for the Taxes of any person (other than Parent or any of its Subsidiaries) under Treasury Regulations Section 1.1502-6 (or any similar provision of state, local or non-U.S. Law), as a transferee or successor by contract.

(j) None of Parent or any of its Subsidiaries has been a United States real property holding corporation within the meaning of Section 897(c)(2) of the Code at any time during the applicable period specified in Section 897(c)(1)(A)(ii) of the Code.

(k) None of Parent or any of its Subsidiaries has participated in a listed transaction within the meaning of Treasury Regulations Section 1.6011-4(b) (or any predecessor provision).

(l) None of Parent or any of its Subsidiaries will be required to include any material item of income in, or exclude any material item of deduction from, taxable income for any taxable period (or portion thereof) ending after the Closing Date as a result of any:

(i) change in method of accounting or use of an improper method of accounting for a taxable period ending on or prior to the Closing Date;

(ii) "closing agreement" as described in Section 7121 of the Code (or any corresponding or similar provision of state, local or non-U.S. income Tax Law) executed prior to the Closing;

(iii) installment sale or open transaction disposition made prior to the Closing;

(iv) prepaid amount received prior to the Closing Date; or

(v) election with respect to income from the discharge of indebtedness under Section 108(i) of the Code.

(m) No written claim has been made by any Taxing Authority in a jurisdiction where it does not file Tax Returns that Parent or any of its Subsidiaries is or may be subject to Tax or required to file a Tax Return.

(n) Each Parent subsidiary is currently, and at all times since its formation has been classified as a corporation for all U.S. federal, state, and local income tax purposes

(o) Notwithstanding any provision in this Agreement to the contrary, Parent, Merger Sub Corp and Merger Sub LLC do not make any representation or warranty as to the existence, amount or any other aspect of any net operating or capital loss, carryovers, carryforwards of business or other tax credits, tax basis, earnings and profits, or any other tax attribute (whether of Parent or any of its Subsidiaries), and the representations contained in Section 3.13 and Section 3.14 (the "***Parent Group Tax Representations***") shall constitute the sole and exclusive representations and warranties by Parent with respect to Taxes or Tax Returns. Other than the Parent Group Tax Representations in Section 3.13(h) and Section 3.13(l), no Parent Group Tax Representation shall be deemed to apply directly or indirectly with respect to any taxable period after the Closing.

Section 3.14 Employee Benefit Programs.

(a) Section 3.14(a) of the Parent Disclosure Schedule sets forth a list of every Employee Program maintained by Parent or any of its Subsidiaries (the "***Parent Employee Programs***"). Parent has made available to the Company correct and complete copies (or, if a plan is not written, a written description) of all Parent Employee Programs and amendments thereto in each case that are in effect as of the date hereof, and, to the extent applicable, (i) all related trust agreements, funding arrangements and insurance contracts now in effect, (ii) the most recent determination letter or opinion letter received regarding the tax-qualified status of each Parent Employee Program intended to be so qualified, (iii) the most recent financial statements for each Parent Employee Program, (iv) the Form 5500 Annual Returns/Reports for the most recent plan year for each Parent Employee Program, (v) the current summary plan description for each Parent Employee Program, (vi) all actuarial valuation reports related to any Parent Employee Programs, and (vii) all material correspondence involving any Parent Employee Program sent to or received from any Governmental Authority.

(b) Each Parent Employee Program which is intended to qualify under Section 401(a) of the Code has received a favorable determination or approval letter from the IRS with respect to such qualification, or may rely on an opinion letter issued by the IRS with respect to a prototype plan adopted in accordance with the requirements for such reliance, or has time remaining for application to the IRS for a determination of the qualified status of such Parent Employee Program for any period for which such Parent Employee Program would not otherwise be covered by an IRS determination. To the Knowledge of Parent no event or omission has occurred which would reasonably be expected to cause any Parent Employee Program to lose its qualification or otherwise fail to satisfy the relevant requirements to provide tax-favored benefits under the applicable Code Section (including without limitation Code Sections 105, 125, 401(a) and 501(c)(9)).

(c) Each Parent Employee Program has been administered in all material respects in accordance with its terms and in accordance with ERISA, the Code and other applicable Laws. With respect to any Parent Employee Program, there has been no (i) non-exempt "prohibited transaction," as defined in Section 406 of ERISA or Code Section 4975, (ii) breach of fiduciary duty, or (iii) non-deductible contribution. No litigation or governmental administrative proceeding (or investigation) or other proceeding (other than those relating to routine claims for benefits) is pending or, to the Knowledge of Parent, threatened in writing with respect to any Parent Employee Program. All payments and/or contributions required to have been made (under the provisions of any agreements or other governing documents or applicable Laws) with respect to all Parent Employee Programs, for all periods prior to the Closing Date, either have been made or have been accrued or otherwise adequately reserved on the Parent Financial Statements.

(d) No Parent Employee Program has been or is subject to Section 302 or Title IV of ERISA and/or Code Section 412, including a Multiemployer Plan, and Parent does not have any liability for any Employee Program that is subject to Title IV of ERISA or that is or has been maintained, contributed to, or required to be contributed to by an ERISA Affiliate of Parent. None of the Parent Employee Programs provides (or has ever provided) health care or any other welfare benefits to any employees after their employment is terminated (other than as required by part 6 of subtitle B of title I of ERISA or state continuation Laws to which the former employee pays all required premiums) or has ever promised to provide such post-termination benefits. Neither Parent nor any of its Subsidiaries is a party to any Contract (including any Parent Employee Program) that has resulted or would reasonably be expected to result, separately or in the aggregate, in the payment of any amount the deduction for which would be disallowed under Section 162(m) of the Code.

(e) Each Parent Employee Program may be amended, terminated, or otherwise discontinued by Parent after the Effective Time in accordance with its terms without material liability to Parent, the Company or any of their respective Subsidiaries.

(f) Neither Parent nor any of its Subsidiaries is a party to any written (i) agreement with any stockholders, director, or employee of Parent or any of its Subsidiaries (A) the benefits of which are contingent, or the terms of which are materially altered, upon the occurrence of a transaction involving Parent or any of its Subsidiaries of the nature of any of the Contemplated Transactions, (B) providing

any guaranteed period of employment or compensation guarantee, or (C) providing severance benefits after the termination of employment or service of such employee or director, or (ii) agreement or plan binding Parent or any of its Subsidiaries, including any stock option plan, stock appreciation right plan, restricted stock plan, stock purchase plan, or severance benefit plan, any of the benefits of which shall be increased, or the vesting of the benefits of which shall be accelerated, by the occurrence of any of the Contemplated Transactions or the value of any of the benefits of which shall be calculated on the basis of any of the Contemplated Transactions.

(g) Neither the execution of this Agreement nor the consummation of the transactions contemplated by this Agreement will, either alone or in combination with another event (such as termination of employment), (i) entitle any current or former employee or other service provider to any compensatory payment or benefit, including any bonus, retention, severance, retirement or job security payment or benefit, or (ii) enhance any benefits or accelerate the time or payment or vesting or trigger any payment or funding (through a grantor trust or otherwise) of compensation or benefits under, or increase the amount payable or trigger any other obligation under, any Parent Employee Program or otherwise.

(h) Except as set forth in Section 3.14(h) of the Parent Disclosure Schedule, there is no Contract, plan, agreement or arrangement covering any employee of or other service provider to Parent or its Subsidiaries that, by itself or collectively, would give rise to any parachute payment subject to Section 280G of the Code, nor has Parent or its Subsidiaries made any such payment, and the consummation of the transactions contemplated herein shall not obligate Parent or its Subsidiaries to make any parachute payment subject to Section 280G of the Code.

(i) Each Parent Employee Program that is a "nonqualified deferred compensation plan" within the meaning of Section 409A of the Code has been operated and maintained in material compliance with all operational and documentary requirements of Section 409A of the Code in all material respects since January 1, 2005, based upon a good faith, reasonable interpretation of Section 409A of the Code, the regulations and other guidance issued thereunder. No stock option granted under the Parent Stock Option Plan has any exercise price that was less than the fair market value of the underlying stock as of the date the option was granted, or has any feature for the deferral of compensation other than the deferral of recognition of income until the later of exercise or disposition of such option. Parent has no Liability to gross-up or indemnify any individual with respect to any Tax imposed pursuant to Code Sections 409A or 4999.

(j) For purposes of this Section 3.14:

(i) An entity "maintains" an Employee Program if such entity sponsors, contributes to, or provides benefits under or through such Employee Program, or has any obligation (by agreement or under applicable Laws) to contribute to or provide benefits under or through such Employee Program, or if such Employee Program provides benefits to or otherwise covers or has covered employees of such entity (or their spouses, dependents, or beneficiaries).

(ii) An entity is an "ERISA Affiliate" of Parent if it would have ever been considered a single employer with Parent or any Subsidiary of Parent under ERISA Section 4001(b) or Code Section 414(b), (c), or (m).

(k) Notwithstanding any other provision of this Agreement, the representations and warranties contained in Section 3.14(a) through Section 3.14(j) constitute the sole and exclusive representations and warranties of Parent and its Subsidiaries relating to ERISA and other Laws relating to employee benefits matters.

Section 3.15 Labor and Employment Matters.

(a) None of Parent or any of its Subsidiaries is a party to, or otherwise bound by, any collective bargaining agreement, contract, or other written agreement with a labor union or labor organization. Neither Parent nor any of its Subsidiaries is subject to, and during the past three (3) years there has not been, any charge, demand, petition, organizational campaign, or representation proceeding seeking to

compel, require, or demand it to bargain with any labor union or labor organization nor is there pending any labor strike or lockout involving Parent or any of its Subsidiaries.

(b) Except as would not, individually or in the aggregate, have a Parent Material Adverse Effect, (i) Parent and its Subsidiaries are in compliance in all material respects with all applicable Laws respecting labor, employment, fair employment practices, work safety and health, terms and conditions of employment, and wages and hours, including Title VII of the Civil Rights Act of 1964, as amended, the Equal Pay Act of 1967, as amended, the Age Discrimination in Employment Act of 1967, as amended, the Americans with Disabilities Act, as amended, the Fair Labor Standards Act, as amended, and its state and local law equivalents, and the related rules and regulations adopted by those federal and state agencies responsible for the administration of such Laws, and other than normal accruals of wages during regular payroll cycles, there are no arrearages in the payment of wages, (ii) neither Parent nor any of its Subsidiaries is delinquent in any payments to any employee or to any independent contractors, consultants, temporary employees, leased employees or other servants or agents employed or used with respect to the operation of the Parent Business and classified by Parent or any of its Subsidiaries as other than an employee or compensated other than through wages paid by Parent or any of its Subsidiaries through its respective payroll department ("***Parent Contingent Workers***"), for any wages, salaries, commissions, bonuses, fees or other direct compensation due with respect to any services performed for it to the date hereof or amounts required to be reimbursed to such employees or Parent Contingent Workers, (iii) there are no grievances, complaints or charges with respect to employment or labor matters (including allegations of employment discrimination, retaliation or unfair labor practices) pending or, to the Knowledge of Parent, threatened in writing against Parent or any of its Subsidiaries in any judicial, regulatory or administrative forum or under any private dispute resolution procedure, (iv) all employees of Parent and each of its Subsidiaries are employed at-will and no such employees are subject to any contract with Parent or any of its Subsidiaries or any policy or practice of Parent or any of its Subsidiaries providing for right of notice of termination of employment or the right to receive severance payments or similar benefits upon the termination of employment by Parent or any of its Subsidiaries, and (v) neither Parent nor any of its Subsidiaries has experienced a "plant closing," "business closing," or "mass layoff" as defined in the WARN Act or any similar Law affecting any site of employment of Parent or any of its Subsidiaries or one or more facilities or operating units within any site of employment or facility of Parent or any of its Subsidiaries, and, during the ninety (90)-day period preceding the date hereof, no employee has suffered an "employment loss," as defined in the WARN Act, with respect to Parent or any of its Subsidiaries, and (vi) there are no pending or, to the Knowledge of Parent, threatened or reasonably anticipated claims or actions against Parent under any workers' compensation policy or long-term disability policy.

(c) Notwithstanding any other provision of this Agreement, the representations and warranties contained in Section 3.15(a) and Section 3.15(b) constitute the sole and exclusive representations and warranties of Parent and its Subsidiaries relating to collective bargaining matters and compliance with Labor Laws.

Section 3.16 Environmental Matters. Except as would not, individually or in the aggregate, have a Parent Material Adverse Effect:

(a) Parent and its Subsidiaries are in compliance with all Environmental Laws applicable to their operations and use of the Parent Leased Real Property;

(b) none of Parent or any of its Subsidiaries has generated, transported, treated, stored, or disposed of any Hazardous Material, except in material compliance with all applicable Environmental Laws, and there has been no Release or threat of Release of any Hazardous Material by Parent or its Subsidiaries at or on the Parent Leased Real Property that requires reporting, investigation or remediation by Parent or its Subsidiaries pursuant to any Environmental Law; and

(c) none of Parent or any of its Subsidiaries has (i) received written notice under the citizen suit provisions of any Environmental Law, or (ii) been subject to or, to the Knowledge of Parent, threatened in writing with any governmental or citizen enforcement action with respect to any Environmental Law.

(d) Notwithstanding any other provision of this Agreement, the representations and warranties contained in Section 3.16 constitute the sole and exclusive representations and warranties of Parent and its Subsidiaries relating to Environmental Laws.

Section 3.17 Insurance. Parent has made available to the Company accurate and complete copies of all material insurance policies relating to the business, assets, liabilities and operations of Parent and each Subsidiary of Parent, as of the date hereof. Each of such insurance policies is in full force and effect and Parent and each Subsidiary of Parent are in compliance in all material respects with the terms thereof. Other than customary end of policy notifications from insurance carriers, since January 1, 2015, neither Parent nor any Subsidiary of Parent has received any written notice regarding any actual or possible: (i) cancellation or invalidation of any insurance policy, (ii) refusal or denial of any coverage, reservation of rights or rejection of any material claim under any insurance policy, or (iii) material adjustment in the amount of the premiums payable with respect to any insurance policy.

Section 3.18 Books and Records. Each of the minute and record books of Parent has been made available to the Company and contains, in all material respects, complete and accurate minutes of all meetings of, and copies of all bylaws and resolutions passed by, or consented to in writing by, the directors (and any committees thereof) and stockholders of Parent, since January 1, 2012 and which are required to be maintained in such books under applicable Laws; all such meetings were duly called and held and all such bylaws and resolutions were duly passed or enacted.

Section 3.19 Transactions with Affiliates. Except as set forth in the Parent SEC Reports filed prior to the date of this Agreement, since the date of Parent's last proxy statement filed in 2015 with the SEC, no event has occurred that would be required to be reported by Parent pursuant to Item 404 of Regulation S-K promulgated by the SEC. Section 3.19 of the Parent Disclosure Schedule identifies each Person who is (or who may be deemed to be) an "affiliate" (as that term is used in Rule 12b-2 under the Exchange Act) of Parent as of the date of this Agreement.

Section 3.20 Legal Proceedings; Orders.

(a) Except as set forth in Section 3.20 of the Parent Disclosure Schedule, there is no pending Legal Proceeding, and, to the Knowledge of Parent, no Person has threatened in writing to commence any Legal Proceeding: (i) that involves Parent, any Subsidiary of Parent or any director or officer of Parent (in his or her capacity as such) or any of the material assets owned or used by Parent and/or any Subsidiary, or (ii) that challenges, or that may have the effect of preventing, delaying, making illegal or otherwise interfering with, the Mergers or any of the other Contemplated Transactions. To the Knowledge of Parent, no event has occurred, and no claim, dispute or other condition or circumstance exists, that will, or that would reasonably be expected to, give rise to or serve as a basis for the commencement of any such Legal Proceeding.

(b) There is no order, writ, injunction, judgment or decree to which Parent or any Subsidiary of Parent, or any of the assets owned or used by Parent or any Subsidiary of Parent, is subject. To the Knowledge of Parent, no executive officer of Parent or any Subsidiary of Parent is subject to any order, writ, injunction, judgment or decree that prohibits such officer or other employee from engaging in or continuing any conduct, activity or practice relating to the Parent Business or to any material assets owned or used by Parent or any Subsidiary of Parent.

Section 3.21 Illegal Payments. None of Parent, any of its Subsidiaries, or, to the Knowledge of Parent, any of their respective directors, officers, employees or agents have, directly or indirectly, made, offered, promised or authorized any payment or gift of any money or anything of value to or for the benefit of any foreign official, foreign political party or official thereof or candidate for foreign political office for the purpose of: (i) influencing any act or decision of such foreign official in his, her or its official capacity, including a decision to fail to perform his, her or its official duties or functions, or (ii) inducing such foreign official to use his, her or its influence with any Governmental Authority to affect or influence any act or decision of such Governmental Authority, or to obtain an improper advantage in order to assist Parent, any of its Subsidiaries or any other Person in obtaining or retaining business for or with, or directing business to, Parent or any of its Subsidiaries. Notwithstanding any other provision of this Agreement, the representations

and warranties contained in this Section 3.21 constitute the sole and exclusive representations and warranties of Parent and its Subsidiaries relating to compliance with Anticorruption Laws.

Section 3.22 Inapplicability of Anti-takeover Statutes. The Boards of Directors of Parent and Merger Sub Corp have taken and will take all actions necessary to ensure that the restrictions applicable to business combinations contained in Section 203 of the DGCL are, and will be, inapplicable to the execution, delivery and performance of this Agreement and the Parent Voting Agreements and to the consummation of the Mergers and the other Contemplated Transactions.

Section 3.23 Vote Required. The affirmative vote of (i) the holders of a majority of the shares of Parent Common Stock having voting power representing a majority of the outstanding Common Stock, and (ii) the holders of a majority of the votes properly cast at the Parent Stockholder Meeting are the only votes of the holders of any class or series of Parent's capital stock necessary to approve the Parent Stockholder Proposals (the "***Parent Stockholder Approval***").

Section 3.24 No Financial Advisor. Except as set forth on Section 3.24 of the Parent Disclosure Schedule, no broker, finder or investment banker is entitled to any brokerage fee, finder's fee, opinion fee, success fee, transaction fee or other fee or commission in connection with the Mergers or any of the other Contemplated Transactions based upon arrangements made by or on behalf of Parent or any Subsidiary of Parent.

Section 3.25 Disclosure; Parent Information. Assuming the accuracy of the representations made by the Company in Section 2.25, the Proxy Statement will not, at the time of the mailing of the Proxy Statement or any amendments or supplements thereto or at the time of the Parent Stockholder Meeting, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading. Assuming the accuracy of the representations made by the Company in Section 2.25, the Form S-4 Registration Statement will not, at the time the Form S-4 Registration Statement is filed with the SEC or at the time it becomes effective under the Securities Act, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading.

ARTICLE 4
CERTAIN COVENANTS OF THE PARTIES

Section 4.1 Access and Investigation. Subject to the terms of the Confidentiality Agreement which the Parties agree will continue in full force and effect following the date of this Agreement, during the period commencing on the date of this Agreement and ending at the earlier of the date of termination of this Agreement pursuant to Section 7.1 and the Effective Time (the "***Pre-Closing Period***"), upon reasonable notice, each Party shall, and shall use commercially reasonable efforts to cause such Party's Representatives to: (a) provide the other Party and such other Party's Representatives with reasonable access during normal business hours to such Party's Representatives, personnel and assets and to all existing books, records, Tax Returns, work papers and other documents and information relating to such Party and its Subsidiaries, (b) provide the other Party and such other Party's Representatives with such copies of the existing books, records, Tax Returns, work papers, product data, and other documents and information relating to such Party and its Subsidiaries, and with such additional financial, operating and other data and information regarding such Party and its Subsidiaries as the other Party may reasonably request, and (c) permit the other Party's officers and other employees to meet, upon reasonable notice and during normal business hours, with the chief financial officer and other officers and managers of such Party responsible for such Party's financial statements and the internal controls of such Party to discuss such matters as the other Party may deem necessary or appropriate in order to enable the other Party to satisfy its obligations under the Sarbanes-Oxley Act and the rules and regulations relating thereto. Without limiting the generality of any of the foregoing, during the Pre-Closing Period, each Party shall promptly make available to the other Party with copies of:

(i) the unaudited quarterly consolidated balance sheets of such Party as of the end of each calendar quarter and the related unaudited quarterly consolidated statements of operations, statements of

stockholders' equity and statements of cash flows for such calendar quarterly, which shall be delivered within forty-five (45) days after the end of such calendar quarter, or such longer periods as the Parties may agree to in writing;

(ii) all material operating and financial reports prepared by such Party for its senior management, including sales forecasts, marketing plans, development plans, discount reports, write-off reports, hiring reports and capital expenditure reports prepared for its management;

(iii) any written materials or communications sent by or on behalf of a Party to all of its stockholders;

(iv) any material notice, document or other communication sent by or on behalf of a Party to any party to any Parent Material Contract or Company Material Contract, as applicable, or sent to a Party by any party to any Parent Material Contract or Company Material Contract, as applicable (other than any communication that relates solely to routine commercial transactions between such Party and the other party to any such Parent Material Contract or Company Material Contract, as applicable, and that is of the type sent in the Ordinary Course of Business);

(v) any notice, report or other document filed with or otherwise furnished, submitted or sent to any Governmental Authority on behalf of a Party in connection with the Mergers or any of the Contemplated Transactions;

(vi) any non-privileged notice, document or other written communication sent by or on behalf of, or sent to, a Party relating to any pending or threatened material Legal Proceeding involving or affecting such Party; and

(vii) any material notice, material report or other material document received by a Party from any Governmental Authority, including regarding any Parent Permit or Company Permit, other than in the Ordinary Course of Business.

Notwithstanding the foregoing, any Party may restrict the foregoing access (A) to the extent that any Law applicable to such party requires such Party to restrict or prohibit access to any such properties or information or as may be necessary to preserve the attorney-client privilege under any circumstances in which such privilege may be jeopardized by such disclosure or access, or (B) to the extent that such Party reasonably believes that allowing such access or furnishing such information would otherwise result in the disclosure of any trade secrets of third parties or violate any obligations existing on the date hereof with respect to confidentiality to any third party or otherwise breach, contravene or violate any effective Contract existing on the date hereof.

Section 4.2 Operation of Parent's Business. Except as set forth on Section 4.2 of the Parent Disclosure Schedule, as expressly required or permitted by this Agreement, as required by applicable Law or as agreed upon in writing by the Company, during the Pre-Closing Period: (i) Parent shall conduct its business and operations: (A) in the Ordinary Course of Business, and (B) in material compliance with all applicable Laws and compliance with the material requirements of all Contracts that constitute Parent Material Contracts, and (ii) Parent shall promptly notify the Company of: (A) any notice or other communication from any Person alleging that the consent of such Person is or may be required in connection with any of the Contemplated Transactions, and (B) any material Legal Proceeding against, relating to, involving or otherwise affecting Parent that is commenced, or, to the Knowledge of Parent, threatened in writing against, Parent after the date of this Agreement. In addition, Parent shall provide the Company with at least three Business Days' prior notice before Parent declares any dividend in respect of any shares of capital stock.

Section 4.3 Operation of the Company's Business. Except as set forth on Section 4.3 of the Company Disclosure Schedule, as expressly required or permitted by this Agreement, as required by applicable Law or as agreed upon in writing by the Parent, during the Pre-Closing Period: (i) the Company shall conduct its business and operations: (A) in the Ordinary Course of Business, and (B) in material compliance with all applicable Laws and compliance with the material requirements of all Contracts that constitute Company Material Contracts, (ii) the Company shall use commercially reasonable efforts to preserve intact its current business organization, keep available the services of its current key employees, officers and other employees

and maintain its relations and goodwill with all suppliers, customers, landlords, creditors, licensors, licensees, employees and other Persons having business relationships with the Company, and (iii) the Company shall promptly notify Parent of: (A) any notice or other communication from any Person alleging that the consent of such Person is or may be required in connection with any of the Contemplated Transactions, and (B) any material Legal Proceeding against, relating to, involving or otherwise affecting the Company that is commenced, or, to the Knowledge of the Company, threatened against, the Company.

Section 4.4 Negative Obligations.

(a) Except (A) as expressly required by this Agreement, (B) as set forth in Section 4.4(a) of the Parent Disclosure Schedule, (C) as required by applicable Law, or (D) with the prior written consent of the Company (which consent shall not be unreasonably withheld, conditioned or delayed), at all times during the Pre-Closing Period, Parent shall not, nor shall it cause or permit any Subsidiary of Parent to, do any of the following:

(i) declare, accrue, set aside or pay any dividend or make any other distribution in respect of any shares of capital stock that would cause the Net Cash Condition not to be satisfied at the Closing; or repurchase, redeem or otherwise reacquire any shares of capital stock or other securities (except for shares of Parent Common Stock from terminated employees of Parent);

(ii) except for contractual commitments in place at the time of this Agreement and disclosed in Section 4.4(a)(ii) of the Parent Disclosure Schedule, and other than as contemplated by the Contemplated Transactions, sell, issue or grant, or authorize the issuance of, or make any commitments to do any of the foregoing: (i) any capital stock or other security (except for Parent Common Stock issued upon the valid exercise of outstanding Parent Stock Options), (ii) any option, warrant or right to acquire any capital stock or any other security, or (iii) any instrument convertible into or exchangeable for any capital stock or other security;

(iii) amend the certificate of incorporation, bylaws or other charter or organizational documents of Parent or any Subsidiary of Parent, or effect or be a party to any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction except as related to the Contemplated Transactions;

(iv) form any new Subsidiary or acquire any equity interest or other interest in any other Person;

(v) lend money to any Person; incur or guarantee any Indebtedness for borrowed money; issue or sell any debt securities or options, warrants, calls or other rights to acquire any debt securities; or guarantee any debt securities of others;

(vi) make any capital expenditure or commitment in excess of $100,000;

(vii) other than in the Ordinary Course of Business, (A) adopt, establish or enter into any Parent Employee Program, (B) cause or permit any Parent Employee Program to be amended other than as required by Law or in order to make amendments for the purposes of Section 409A of the Code, subject to prior review and approval (with such approval not to be unreasonably withheld) by the Company, (C) hire any new employee or consultant, (D) grant, make or pay (or agree to pay) any severance, retention, change in control, bonus or profit-sharing or similar payment to, or increase the amount of the wages, salary, commissions, fringe benefits or other compensation or remuneration payable to, any of its directors, employees or consultants (other than any payment which is (x) to be paid prior or in connection with the Closing and (y) which would not cause the Net Cash Condition to be unsatisfied), or (E) accelerate the time of payment or vesting of any benefits or compensation to any of its directors, employees or consultants;

(viii) acquire any material asset nor sell, lease or otherwise irrevocably dispose of any of its material assets or properties, nor grant any Encumbrance with respect to such assets or properties, except in the Ordinary Course of Business;

(ix) make, change or revoke any material Tax election; file any material amendment to any Tax Return; adopt or change any material accounting method in respect of Taxes; change any annual Tax accounting period; enter into any Tax allocation agreement, Tax sharing agreement or Tax indemnity agreement, other than commercial contracts entered into in the Ordinary Course of Business and the primary purpose of which does not relate to Taxes; enter into any closing agreement with respect to any material Tax Liability; settle or compromise any claim, notice, audit report or assessment in respect of any material Tax Liability; apply for or enter into any ruling from any Tax authority with respect to Taxes; surrender any right to claim a refund of a material amount of Taxes; or consent to any extension or waiver of the statute of limitations period applicable to any material Tax claim or assessment;

(x) enter into, amend or terminate any Parent Material Contract, or amend or terminate any material Parent Permit, or apply for any new material Permit under applicable Health Care Laws with respect to the Parent Product Candidates;

(xi) commence a lawsuit other than (A) for routine collection of bills, (B) in such cases as Parent in good faith determines that failure to commence such lawsuit would result in the material impairment of a valuable aspect of Parent's and/or any Subsidiary of Parent's business, or (C) for a breach of this Agreement;

(xii) fail to make any material payment with respect to any of Parent's accounts payable or Indebtedness in a timely manner in accordance with the terms thereof and consistent with past practices;

(xiii) hire any employees or engage any independent contractors, consultants or other Parent Contingent Workers;

(xiv) incur any Liability not expressly permitted pursuant to clauses (i) through (xiii) of this Section 4.4(a), other than in the Ordinary Course of Business;

(xv) after the Net Cash Schedule has been finalized, incur any Liability in excess of $100,000 or otherwise take any action or omit to take any action so as to cause the final Net Cash calculation to differ materially from actual Net Cash as of the Closing; or

(xvi) agree (in writing) to take, take or permit any Subsidiary of Parent to take or agree to take, any of the actions specified in clauses (i) through (xvi) of this Section 4.4(a).

(b) Except (A) as expressly required by this Agreement, (B) as set forth in Section 4.4(b) of the Company Disclosure Schedule, (C) as required by applicable Law, or (D) with the prior written consent of Parent (which consent shall not be unreasonably withheld, conditioned or delayed), at all times during the Pre-Closing Period, the Company shall not do any of the following:

(i) declare, accrue, set aside or pay any dividend or make any other distribution in respect of any shares of capital stock; or repurchase, redeem or otherwise reacquire any shares of capital stock or other securities (except for shares of Company Common Stock from terminated employees of the Company);

(ii) except for contractual commitments in place at the time of this Agreement and disclosed in Section 4.4(b)(ii) of the Company Disclosure Schedule, and other than as contemplated by the Contemplated Transactions, sell, issue or grant, or authorize the issuance of, or make any commitments to do any of the foregoing: (i) any capital stock or other security (except for Company Common Stock issued upon the valid exercise of outstanding Company Options or Company Warrants), (ii) any option, warrant or right to acquire any capital stock or any other security, or (iii) any instrument convertible into or exchangeable for any capital stock or other security;

(iii) amend the Company Charter, Company Bylaws or other charter or organizational documents of the Company, or effect or be a party to any merger, consolidation, share exchange,

business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction except as related to the Contemplated Transactions or the Company Private Placement;

(iv) form any Subsidiary or acquire any equity interest or other interest in any other Person;

(v) lend money to any Person; incur or guarantee any Indebtedness for borrowed money; issue or sell any debt securities or options, warrants, calls or other rights to acquire any debt securities; guarantee any debt securities of others; or make any capital expenditure or commitment in excess of $100,000;

(vi) make any capital expenditure or commitment in excess of $100,000;

(vii) other than in the Ordinary Course of Business, (A) adopt, establish or enter into any Company Employee Program, (B) cause or permit any Company Employee Program to be amended other than as required by Law or in order to make amendments for the purposes of Section 409A of the Code, subject to prior review and approval (with such approval not to be unreasonably withheld) by Parent, (C) hire any new employee or consultant, (D) grant, make or pay (or agree to pay) any severance, retention, change in control, bonus or profit-sharing or similar payment to, or increase the amount of the wages, salary, commissions, fringe benefits or other compensation or remuneration payable to, any of its directors, employees or consultants, or (E) accelerate the time of payment or vesting of any benefits or compensation to any of its directors, employees or consultants;

(viii) acquire any material asset nor sell, lease or otherwise irrevocably dispose of any of its material assets or properties, nor grant any Encumbrance with respect to such assets or properties, except in the Ordinary Course of Business;

(ix) make, change or revoke any material Tax election; file any material amendment to any Tax Return; adopt or change any material accounting method in respect of Taxes; change any annual Tax accounting period; enter into any Tax allocation agreement, Tax sharing agreement or Tax indemnity agreement, other than commercial contracts entered into in the Ordinary Course of Business and the primary purpose of which does not relate to Taxes; enter into any closing agreement with respect to any material Tax Liability; settle or compromise any claim, notice, audit report or assessment in respect of any material Tax Liability; apply for or enter into any ruling from any Tax authority with respect to Taxes; surrender any right to claim a refund of a material amount of Taxes; or consent to any extension or waiver of the statute of limitations period applicable to any material Tax claim or assessment;

(x) enter into, amend or terminate any Company Material Contract, or amend or terminate any material Company Permit, or apply for any new material Permit under applicable Health Care Laws with respect to the Company Product Candidates;

(xi) commence a lawsuit other than (A) for routine collection of bills, (B) in such cases as the Company in good faith determines that failure to commence such lawsuit would result in the material impairment of a valuable aspect of the Company's and/or any Subsidiary of the Company's business, or (C) for a breach of this Agreement;

(xii) fail to make any material payment with respect to any of the Company's accounts payable or Indebtedness in a timely manner in accordance with the terms thereof and consistent with past practices;

(xiii) incur any Liability not expressly permitted pursuant to clauses (i) through (xii) of this Section 4.4(b), other than in the Ordinary Course of Business; or

(xiv) agree to take or take any of the actions specified in clauses (i) through (xi) of this Section 4.4(b).

Section 4.5 Mutual Non-Solicitation.

(a) No Solicitation by the Company.

(i) Except as expressly permitted by this Section 4.5(a), during the Pre-Closing Period, none of the Company or any Representative of the Company shall directly or indirectly (A) whether publicly or otherwise, initiate, solicit, seek, induce, cause or knowingly encourage or support any inquiries, proposals or offers that constitute or may reasonably be expected to lead to, a Company Acquisition Proposal (as defined below), (B) enter into, continue, maintain, conduct or otherwise engage or participate in, or knowingly facilitate, any discussions or negotiations regarding, or afford any Person other than Parent access to the Company's or any of its Subsidiaries' properties or assets, books and records, Contracts, personnel or otherwise furnish any nonpublic information relating to the Company or any of its Subsidiaries to any Person in connection with or for the purpose of encouraging, inducing or facilitating any inquiries, proposals or offers that constitute, or may reasonably be expected to lead to, a Company Acquisition Proposal (other than, solely in response to an unsolicited inquiry, solely to refer the inquiring person to this Section 4.5(a) and to limit its conversation or other communication exclusively to such referral), (C) enter into any letter of intent, memorandum of understanding, agreement in principle, acquisition agreement, merger agreement or other similar type of Contract contemplating or otherwise providing for or relating to a Company Acquisition Proposal or any inquiry, proposal or offer that may reasonably be expected to lead to a Company Acquisition Proposal, or enter into any Contract or agreement in principle requiring the Company to abandon, terminate or fail to consummate the transactions contemplated hereby, (D) take any action to make the provisions of any takeover statute or any similar provision contained in the organizational documents of the Company inapplicable to any transactions contemplated by a Company Acquisition Proposal, (E) amend, or grant a waiver or release under, any standstill or similar agreement with respect to any capital stock of the Company, or (F) publicly or otherwise, resolve, propose or agree to do any of the foregoing described in clauses (A) through (F); provided, however, that prior to delivery to Parent and the Company of Company Voting Agreements by the holders of a majority of the outstanding shares of the Company Class A Common Stock or the termination of this Agreement in accordance with Article 7, the Company may take the following actions in response to an unsolicited bona fide written Company Acquisition Proposal received after the date hereof that the Board of Directors of the Company has determined, in good faith, after consultation with its outside counsel and financial advisors, constitutes, or would reasonably be expected to lead to, a Company Superior Offer: (1) furnish nonpublic information regarding the Company to the third party making the Company Acquisition Proposal (a "***Company Qualified Bidder***"), (2) engage in discussions or negotiations with the Company Qualified Bidder and its Representatives with respect to such Company Acquisition Proposal, and (3) amend, or grant a waiver or release under, any standstill or similar agreement with respect to any capital stock of the Company with any Company Qualified Bidder solely to the extent necessary to permit a third party to make, on a confidential basis to the Board of Directors of the Company, a Company Acquisition Proposal; provided that in any such case (w) the Company receives from the Company Qualified Bidder an executed confidentiality agreement the terms of which are not less restrictive to such Person and its Representatives than those contained in the Confidentiality Agreement, and containing additional provisions that expressly permit the Company to comply with the terms of this Section 4.5(a) (a "***Company Acceptable Confidentiality Agreement***") (a copy of such Company Acceptable Confidentiality Agreement shall promptly, and in any event within twenty-four (24) hours, be provided to Parent for informational purposes only), (x) the Company contemporaneously supplies to Parent any such nonpublic information or access to any such nonpublic information to the extent it has not been previously provided or made available to Parent, (y) the Company has not breached this Section 4.5(a), and (z) the Board of Directors of the Company determines in good faith, after consultation with its outside legal counsel and financial advisors, that taking such actions would be required to comply with the fiduciary duties of the Board of Directors of the Company under applicable Laws. From and after the date of this Agreement, the Company shall use its reasonable best efforts to enforce, and cause its Subsidiaries and Representatives to enforce, any confidentiality provisions or provisions of similar effect to which it

or any of its Subsidiaries is a party or of which it or any of its Subsidiaries is a beneficiary. Any violation of the restrictions contained in this Section 4.5(a) by any Representatives of the Company or any of its Subsidiaries shall be deemed to be a breach of this Section 4.5(a) by the Company.

(ii) For purposes of this Agreement,

(A) "***Company Acquisition Proposal***" means any inquiry, proposal, indication of interest or offer from any Person or group (the term "group" for purposes of this Agreement having the meaning assigned thereto in Section 13(d) of the Exchange Act and the rules and regulations thereunder), in a single transaction or series of related transactions, relating to (i) a merger, tender offer, recapitalization, reorganization, business combination, liquidation, dissolution, share exchange, arrangement or consolidation, or any similar transaction involving the Company, (ii) a sale, lease, exchange, mortgage, pledge, transfer or other acquisition of fifteen percent (15%) or more of the assets of the Company (including the acquisition of securities in any Subsidiary of the Company), including pursuant to a license or joint venture, or to which fifteen percent (15%) or more of the Company's revenues or earnings are attributable, (iii) an issuance by the Company of securities representing fifteen percent (15%) or more of the voting power of the Company, or (iv) a purchase, tender offer or other acquisition (including by way of merger, consolidation, share exchange, arrangement, consolidation or otherwise) of beneficial ownership (the term "beneficial ownership" for purposes of this Agreement having the meaning assigned thereto in Section 13(d) of the Exchange Act and the rules and regulations thereunder) of securities representing fifteen percent (15%) or more of the voting power of the Company (including securities of the Company currently beneficially owned by such Person); provided, however, that the term "Company Acquisition Proposal" shall not include the Mergers or the other transactions expressly contemplated by this Agreement, or an underwritten public offering of Company Common Stock; and

(B) "***Company Superior Offer***" shall mean an unsolicited bona fide Company Acquisition Proposal (with all references to "fifteen percent (15%)" in the definition of Company Acquisition Proposal being treated as references to "one hundred percent (100%)" for these purposes) made by a third party after the date hereof that the Board of Directors of the Company determines in good faith, after consultation with its outside legal counsel and financial advisor, and after taking into account all financial, legal, regulatory, and other aspects of such Company Acquisition Proposal, (1) is more favorable from a financial point of view to the Company Stockholders than as provided hereunder (including any changes to the terms of this Agreement proposed by Parent in response to such Company Superior Offer, or otherwise), (2) is not subject to any financing condition (and if financing is required, such financing is then fully committed to the third party), (3) is reasonably capable of being completed on the terms proposed without unreasonable delay, and (4) includes termination rights exercisable by the Company on terms no less favorable to the Company than the terms set forth in this Agreement, all from a third party capable of performing such terms.

(iii) To the fullest extent permitted by Law and subject to Section 4.5(a)(iv), neither the Board of Directors of the Company nor any committee of the Board of Directors of the Company shall (A) fail to make, withhold, withdraw, qualify, amend, change or resolve or publicly propose or announce its intention to withhold, withdraw, qualify, amend or change in a manner adverse to Parent, the Company Board Recommendation, (B) fail to recommend against acceptance of a tender or exchange offer within ten (10) Business Days after commencement, (C) adopt, approve, endorse, recommend or declare advisable, or resolve or publicly propose to or announce its intention to adopt, approve, endorse, recommend or declare advisable, any Company Acquisition Proposal, or (D) make any public statement inconsistent with the Company Board Recommendation (any action described in this sentence being referred to as a "***Company Change of Recommendation***").

(iv) Notwithstanding any other provision of this Agreement, (a) at any time prior to obtaining the Company Stockholder Approval, the Board of Directors of the Company may effect a Company Change of Recommendation if the Board of Directors of the Company determines that such

Company Change of Recommendation is required to comply with its fiduciary duties, and (b) the Company and its Representatives may engage in discussions with any third party making an unsolicited Company Acquisition Proposal if (x) the Board of Directors of the Company determines that such discussions are required under applicable Law to permit the Board of Directors to make a fully informed decision with respect to whether or not to effect a Company Change of Recommendation and (y) the Board of Directors of the Company, upon the advice of outside legal counsel, shall have determined that such discussions are required to comply with its fiduciary duties under applicable Laws.

(v) Nothing in this Section 4.5(a) shall prohibit the Board of Directors of the Company from making any disclosure to the Company Stockholders, if, in the good faith judgment of the Board of Directors of the Company, after consultation with its outside legal counsel, such disclosure would be required to comply with its fiduciary duties under applicable Laws; provided that in any event the Board of Directors of the Company shall not take, agree or resolve to take any action prohibited or governed by this Section 4.5(a) except in accordance with this Section 4.5(a).

(b) No Solicitation by Parent.

(i) Except as expressly permitted by this Section 4.5(b), during the Pre-Closing Period, none of Parent, its Subsidiaries or any Representatives of Parent or any of its Subsidiaries shall directly or indirectly (A) whether publicly or otherwise, initiate, solicit, seek, induce, cause or knowingly encourage or support any inquiries, proposals or offers that constitute or may reasonably be expected to lead to, a Parent Acquisition Proposal (as defined below), (B) enter into, continue, maintain, conduct or otherwise engage or participate in, or knowingly facilitate, any discussions or negotiations regarding, or afford any Person other than the Company access to Parent's or any of its Subsidiaries' properties or assets, books and records, Contracts, personnel or otherwise furnish any nonpublic information relating to Parent or any of its Subsidiaries to any Person in connection with or for the purpose of encouraging, inducing or facilitating any inquiries, proposals or offers that constitute, or may reasonably be expected to lead to, a Parent Acquisition Proposal (other than, solely in response to an unsolicited inquiry, solely to refer the inquiring person to this Section 4.5(b) and to limit its conversation or other communication exclusively to such referral), (C) enter into any letter of intent, memorandum of understanding, agreement in principle, acquisition agreement, merger agreement or other similar type of Contract contemplating or otherwise providing for or relating to a Parent Acquisition Proposal or any inquiry, proposal or offer that may reasonably be expected to lead to a Parent Acquisition Proposal, or enter into any Contract or agreement in principle requiring Parent to abandon, terminate or fail to consummate the transactions contemplated hereby, (D) take any action to make the provisions of any takeover statute or any similar provision contained in the organizational documents of Parent inapplicable to any transactions contemplated by a Parent Acquisition Proposal, (E) amend, or grant a waiver or release under, any standstill or similar agreement with respect to any capital stock of Parent, or (F) publicly or otherwise, resolve, propose or agree to do any of the foregoing described in clauses (A) through (F); provided, however, that prior to the earlier of the approval of the Parent Stockholder Proposals at the Parent Stockholder Meeting or the termination of this Agreement in accordance with Article 7, Parent may take the following actions in response to an unsolicited bona fide written Parent Acquisition Proposal received after the date hereof that the Board of Directors of Parent has determined, in good faith, after consultation with its outside counsel and financial advisors, constitutes, or would reasonably be expected to lead to, a Parent Superior Offer: (1) furnish nonpublic information regarding Parent to the third party making the Parent Acquisition Proposal (a "***Parent Qualified Bidder***"), (2) engage in discussions or negotiations with the Parent Qualified Bidder and its Representatives with respect to such Parent Acquisition Proposal, and (3) amend, or grant a waiver or release under, any standstill or similar agreement with respect to any capital stock of Parent with any Parent Qualified Bidder solely to the extent necessary to permit a third party to make, on a confidential basis to the Board of Directors of Parent, a Parent Acquisition Proposal; provided that in any such case (w) Parent receives from the Parent Qualified Bidder an executed confidentiality agreement the terms of which are not less restrictive to such Person and its Representatives than those contained in the

Confidentiality Agreement, and containing additional provisions that expressly permit Parent to comply with the terms of this Section 4.5(b) (a "***Parent Acceptable Confidentiality Agreement***") (a copy of such Parent Acceptable Confidentiality Agreement shall promptly, and in any event within twenty-four (24) hours, be provided to the Company for informational purposes only), (x) Parent contemporaneously supplies to the Company any such nonpublic information or access to any such nonpublic information to the extent it has not been previously provided or made available to the Company, (y) Parent has not breached this Section 4.5(b), and (z) the Board of Directors of Parent determines in good faith, after consultation with its outside legal counsel and financial advisors, that taking such actions would be required to comply with the fiduciary duties of the Board of Directors of Parent under applicable Laws. From and after the date of this Agreement, Parent shall use its reasonable best efforts to enforce, and cause its Subsidiaries and Representatives to enforce, any confidentiality provisions or provisions of similar effect to which it or any of its Subsidiaries is a party or of which it or any of its Subsidiaries is a beneficiary. Any violation of the restrictions contained in this Section 4.5(b) by any Representatives of Parent or any of its Subsidiaries shall be deemed to be a breach of this Section 4.5(b) by Parent.

(ii) For purposes of this Agreement,

(A) "***Parent Acquisition Proposal***" means any inquiry, proposal, indication of interest or offer from any Person or group (the term "group" for purposes of this Agreement having the meaning assigned thereto in Section 13(d) of the Exchange Act and the rules and regulations thereunder), in a single transaction or series of related transactions, relating to (i) a merger, tender offer, recapitalization, reorganization, business combination, liquidation, dissolution, share exchange, arrangement or consolidation, or any similar transaction involving Parent or its Subsidiaries, (ii) a sale, lease, exchange, mortgage, pledge, transfer or other acquisition of fifteen percent (15%) or more of the assets of Parent and its Subsidiaries, taken as a whole (including the acquisition of securities in any Subsidiary of Parent), including pursuant to a license or joint venture, or to which fifteen percent (15%) or more of Parent's and its Subsidiaries' consolidated revenues or earnings are attributable, (iii) an issuance by Parent of securities representing fifteen percent (15%) or more of the voting power of Parent, or (iv) a purchase, tender offer or other acquisition (including by way of merger, consolidation, share exchange, arrangement, consolidation or otherwise) of beneficial ownership (the term "beneficial ownership" for purposes of this Agreement having the meaning assigned thereto in Section 13(d) of the Exchange Act and the rules and regulations thereunder) of securities representing fifteen percent (15%) or more of the voting power of Parent (including securities of Parent currently beneficially owned by such Person); provided, however, that the term "Parent Acquisition Proposal" shall not include the Mergers or the other transactions contemplated by this Agreement; and

(B) "***Parent Superior Offer***" shall mean an unsolicited bona fide Parent Acquisition Proposal (with all references to "fifteen percent (15%)" in the definition of Parent Acquisition Proposal being treated as references to "one hundred percent (100%)" for these purposes) made by a third party after the date hereof that the Board of Directors of Parent determines in good faith, after consultation with its outside legal counsel and financial advisor, and after taking into account all financial, legal, regulatory, and other aspects of such Parent Acquisition Proposal, (1) is more favorable from a financial point of view to the Parent Stockholders than as provided hereunder (including any changes to the terms of this Agreement proposed by the Company in response to such Parent Superior Offer pursuant to and in accordance with Section 4.5(b)(iv) or otherwise), (2) is not subject to any financing condition (and if financing is required, such financing is then fully committed to the third party), (3) is reasonably capable of being completed on the terms proposed without unreasonable delay, and (4) includes termination rights exercisable by Parent on terms no less favorable to Parent than the terms set forth in this Agreement, all from a third party capable of performing such terms.

(iii) Except as otherwise expressly provided in Section 4.5(b)(iv), neither the Board of Directors of Parent nor any committee of the Board of Directors of Parent shall (A) fail to make, withhold,

withdraw, qualify, amend, change or resolve or publicly propose or announce its intention to withhold, withdraw, qualify, amend or change in a manner adverse to the Company, the Parent Recommendation, (B) fail to recommend against acceptance of a tender or exchange offer within ten (10) Business Days after commencement, (C) adopt, approve, endorse, recommend or declare advisable, or resolve or publicly propose to or announce its intention to adopt, approve, endorse, recommend or declare advisable, any Parent Acquisition Proposal, or (D) make any public statement inconsistent with the Parent Recommendation (any action described in this sentence being referred to as a "***Parent Change of Recommendation***").

(iv) Notwithstanding the foregoing, provided that Parent shall not have breached its obligations under this Section 4.5(b), the Board of Directors of Parent may effect a Parent Change of Recommendation in the case of a Parent Superior Offer, or may terminate this Agreement in order to enter into a definitive agreement with respect to a Parent Superior Offer pursuant to Section 7.1(j), if prior to taking any such action:

(A) the Board of Directors of Parent determines in good faith, after consultation with outside legal counsel and financial advisors, that a Parent Change of Recommendation is required in order to comply with its fiduciary duties under applicable Laws based upon the receipt of a Parent Acquisition Proposal after the date hereof that has not been withdrawn that the Board of Directors of Parent determines in good faith, after consultation with outside legal counsel and financial advisors, constitutes a Parent Superior Offer, but only at a time that is prior to the approval of the Parent Stockholder Proposals at the Parent Stockholder Meeting and is after 11:59 pm, New York City time, on the fourth Business Day following the Company's receipt of written notice (a "***Parent Change of Recommendation Notice***") advising the Company that the Board of Directors of Parent desires to effect a Parent Change of Recommendation or terminate this Agreement in order to enter into a definitive agreement with respect to such Parent Superior Offer pursuant to Section 7.1(j) (and the manner and timing in which it intends to do so, and specifying the identity of the Person making the Parent Acquisition Proposal), unredacted written copies of all proposed transaction agreements relating to such Parent Acquisition Proposal and any other materials provided by such Person in connection with such Parent Acquisition Proposal (such four (4) Business Day period, the "***Notice Period***");

(B) Parent provides the Company with a reasonable opportunity to make adjustments in the terms and conditions of this Agreement and negotiates (and causes its Representatives to negotiate) in good faith with the Company and its Representatives with respect thereto during the Notice Period, in each case as would enable the Board of Directors of Parent or committee thereof to conclude that the Parent Acquisition Proposal that was determined to be a Parent Superior Offer is no longer a Parent Superior Offer; and

(C) following the end of the Notice Period, the Board of Directors of Parent determines in good faith, after consultation with outside legal counsel and financial advisors, that after considering the terms of any revised terms proposed by the by the Company, the failure to effect a Parent Change of Recommendation or terminate this Agreement in order to enter into a definitive agreement with respect to a Parent Superior Offer pursuant to Section 7.1(j) is still required in order to comply with its fiduciary duties under applicable Laws.

Any changes to the financial terms or other material terms of such Parent Superior Offer occurring prior to a Parent Change of Recommendation pursuant to this Section 4.5(b)(iv) shall require Parent to provide to the Company a new Parent Change of Recommendation Notice and a new Notice Period and to comply with the requirements of this Section 4.5(b)(iv) with respect to each such Parent Change of Recommendation Notice, except that the references to the "fourth Business Day" shall be deemed to be the "later of (1) the second Business Day, and (2) the period remaining under the original four Business Day Notice Period immediately prior to the delivery of such notice pursuant to this sentence," during which the Board of Directors of Parent shall not make a Parent Change of Recommendation or terminate this Agreement pursuant to Section 7.1(j) prior to the end of any such period as so extended. Any Parent Change of Recommendation

shall not change the approval of this Agreement or any other approval of the Board of Directors of Parent, including in any respect that would have the effect of causing any state (including Delaware) corporate takeover statute or other similar statute to be applicable to the transactions contemplated hereby or thereby, including the Merger.

(v) Nothing in this Section 4.5(b) shall prohibit Parent from complying with Rule 14e-2 or Rule 14d-9 promulgated under the Exchange Act with regard to a Parent Acquisition Proposal, respectively, or from the Board of Directors of Parent making any disclosure to the Parent Stockholders if, in the good faith judgment of the Board of Directors of Parent, after consultation with its outside legal counsel, that taking such action or making such disclosure would be required to comply with its fiduciary duties under applicable Laws; provided that in any event the Board of Directors of Parent shall not make or resolve to make a Parent Change Recommendation except in accordance with Section 4.5(b)(iv) or otherwise take, agree or resolve to take any action prohibited or governed by this Section 4.5(b) except in accordance with this Section 4.5(b).

(c) Both the Company and Parent shall notify the other no later than twenty-four (24) hours after receipt of any Company Acquisition Proposal or Parent Acquisition Proposal or any inquiries, discussions, negotiations, proposals, expressions of interest or requests for information that may reasonably be expected to lead to a Company Acquisition Proposal or Parent Acquisition Proposal, respectively, and any such notice shall be made orally or in writing and shall indicate in reasonable detail the terms and conditions of such proposal, inquiry, contact or request, including price, and the identity of the offeror, and shall be accompanied by a copy of such Company Acquisition Proposal or Parent Acquisition Proposal, as applicable, inquiry, proposal, expression of interest or request (if written). If the Company is in receipt of a Company Acquisition Proposal, the Company shall notify Parent, in writing, of any decision of the Board of Directors of the Company or any committee thereof as to whether to consider any Company Acquisition Proposal or to enter into discussions or negotiations concerning any Company Acquisition Proposal or to provide nonpublic information with respect to such Company Acquisition Proposal to any Person, and if Parent is in receipt of a Parent Acquisition Proposal, Parent shall notify the Company, in writing, of any decision of the Board of Directors of Parent or any committee thereof as to whether to consider any Parent Acquisition Proposal or to enter into discussions or negotiations concerning any Parent Acquisition Proposal or to provide nonpublic information with respect to such Parent Acquisition Proposal to any Person, which notice in any such case shall be given no later than twenty-four (24) hours after such determination is reached. Both the Company and Parent shall keep the other informed, on a current basis, of the status and material developments (including any changes to the terms) of such Company Acquisition Proposal or Parent Acquisition Proposal, respectively, including by providing a copy of all written proposals and a summary of all oral proposals or material oral modifications to an earlier written proposal, in each case relating to any Company Acquisition Proposal or Parent Acquisition Proposal, as applicable.

(d) The Company and Parent shall, and shall cause each of their respective Subsidiaries and their respective Representatives to, immediately cease and cause to be terminated any and all existing activities, discussions or negotiations with any Person conducted heretofore with respect to, or that may reasonably be expected to lead to, a Company Acquisition Proposal or Parent Acquisition Proposal. The Company and Parent shall each immediately revoke or withdraw access of any Person (other than Parent, the Company and their respective Representatives) to any data room (virtual or actual) containing any nonpublic information with respect to the Company or Parent, as applicable, and request from each third party (other than Parent, the Company and their Representatives) the prompt return or destruction of all nonpublic information with respect to the Company or Parent, as applicable, previously provided or made accessible to such Person.

ARTICLE 5
ADDITIONAL AGREEMENTS OF THE PARTIES

Section 5.1 Filings; Other Actions.

(a) Parent and the Company shall use reasonable best efforts to take or cause to be taken such actions as may be required to be taken under the Securities Act, the Exchange Act, any other federal securities Laws, any applicable state securities or "blue sky" Laws and any stock exchange requirements in connection with the Mergers and the other transactions contemplated by this Agreement. Without limiting the foregoing, as promptly as practicable after the date of this Agreement, the Parties shall prepare and cause to be filed with the SEC the Proxy Statement and the Form S-4 Registration Statement, in which the Proxy Statement will be included as a prospectus; provided, however, that prior to the filing of the Proxy Statement and the Form S-4 Registration Statement, Parent shall consult with the Company with respect to such filings and shall afford the Company reasonable opportunity to review and comment thereon (including the proposed final versions thereof), which Parent shall consider in good faith. The Parties shall use reasonable best efforts to cause the Proxy Statement to be mailed to Parent's stockholders and the Company's stockholders, all as promptly as reasonably practicable after the date on which the Form S-4 Registration Statement is declared effective under the Securities Act (the "***S-4 Effective Date***").

(b) The Company shall promptly provide Parent with any information for inclusion in the Proxy Statement and the Form S-4 Registration Statement that may be required under applicable Law or that is reasonably requested by Parent. Without limiting the generality of the foregoing, if the Proxy Statement is mailed after February 14, 2017, the Company shall provide Parent with a copy of the Company's consolidated balance sheet as of December 31, 2016 and December 31, 2015, and the related consolidated statements of operations, cash flows and stockholders equity for the twelve months ended December 31, 2016 and December 31, 2015, together with the notes thereto (collectively, the "***Additional Company Financial Statements***"). The Additional Company Financial Statements shall (i) comply as to form in all material respects with the published rules and regulations of the SEC with respect thereto, (ii) be prepared in accordance with GAAP applied on a consistent basis (unless otherwise noted therein) throughout the periods indicated, and (iii) fairly present, in all material respects, the financial condition and operating results of the Company as of the dates and for the periods indicated therein.

(c) Parent shall notify the Company of the receipt of comments from the SEC and of any request from the SEC for amendments or supplements to the Proxy Statement, the Form S-4 Registration Statement or for additional information, and will promptly supply to the Company copies of all correspondence between Parent, on the one hand, and the SEC or members of its staff, on the other hand, with respect to the Proxy Statement, the Form S-4 Registration Statement or the Merger. Parent and the Company shall use reasonable best efforts to resolve all SEC comments with respect to the Proxy Statement, the Form S-4 Registration Statement and any other required filings as promptly as practicable after receipt thereof. Parent and the Company agree to correct any information provided by it for use in the Proxy Statement or the Form S-4 Registration Statement, which shall have become false or misleading in any material respect. The Company will promptly notify Parent if at any time prior to the Parent Stockholder Meeting any event should occur which is required by applicable Law to be set forth in an amendment of, or a supplement to, the Proxy Statement or the Form S-4 Registration Statement. In such case, the Parties will cooperate to promptly prepare and file such amendment or supplement with the SEC to the extent required by applicable Law and will mail such amendment or supplement to Parent's stockholders to the extent required by applicable Law; provided, however, that prior to such filing, each Party shall consult with each other Party with respect to such amendment or supplement and shall afford each such Party reasonable opportunity to review and comment thereon (including the proposed final versions thereof), which Parent shall consider in good faith.

Section 5.2 Stockholder Approval.

(a) Company Stockholder Meeting. The Company shall take all action necessary in accordance with applicable Laws and the Company Charter and Company Bylaws to call, give notice of, convene and hold a meeting of the Company Stockholders (the "***Company Stockholder Meeting***") to consider

and vote on proposals to adopt and approve this Agreement. The Company shall mail the disclosure materials as soon as reasonably practicable after the S-4 Effective Date (but in no event later than the third Business Day thereafter) and shall hold the Company Stockholder Meeting no later than twenty four (24) days after mailing the disclosure, unless a later date is mutually agreed to by Parent and the Company. Subject to the provisions of Section 4.5(a) hereof, the Board of Directors of the Company recommends that the Company Stockholders approve this Agreement (the "***Company Board Recommendation*** ") and the Company shall include such Company Board Recommendation in the Company disclosure materials. Without limiting the generality of the foregoing, the Company agrees that unless this Agreement has been terminated in accordance with Section 7.1, its obligations under this Section 5.2(a) shall not be affected by the commencement, public proposal, public disclosure or communication to the Company of any Company Acquisition Proposal or by any Company Change of Recommendation.

(b) Parent Stockholder Meeting. Parent shall take all action necessary in accordance with applicable Laws and the Parent Charter and Parent Bylaws to call, give notice of, convene and hold a meeting of the Parent Stockholders (the "***Parent Stockholder Meeting***") to consider and vote on proposals to adopt and approve this Agreement, the Mergers, the issuance of the shares of Parent Common Stock in connection with the Merger, the New Equity Incentive Plan, an amendment to the Parent Charter to among other things, effect the Reverse Stock Split immediately prior to the Effective Time, and approve the appointment of the directors as contemplated by Section 5.13(collectively, the "***Parent Stockholder Proposals***"). Parent shall mail the Proxy Statement as soon as reasonably practicable after the S-4 Effective Date and shall hold the Parent Stockholder Meeting no later than forty-five (45) days after mailing the Proxy Statement, unless a later date is mutually agreed to by the Company and Parent. Parent shall take all actions as are reasonably necessary or appropriate to solicit from the Parent Stockholders proxies in favor of the Parent Stockholder Proposals. If on the scheduled date of the Parent Stockholder Meeting Parent has not obtained the Parent Stockholder Approvals, Parent shall have the right to adjourn or postpone the Parent Stockholder Meeting to a later date or dates, such later date or dates not to exceed thirty (30) days from the original date that the Parent Stockholder Meeting was scheduled for the approval of the Parent Stockholder Proposals. Subject to the provisions of Section 4.5(b) hereof, the Board of Directors of Parent recommends that the Parent Stockholders approve the Parent Stockholder Proposals (the "***Parent Recommendation***") and Parent shall include such Parent Recommendation in the Proxy Statement. Without limiting the generality of the foregoing, Parent agrees that unless this agreement has been terminated in accordance with Section 7.1, its obligations under this Section 5.2(a) shall not be affected by the commencement, public proposal, public disclosure or communication to Parent of any Parent Acquisition Proposal or by any Parent Change of Recommendation.

Section 5.3 Regulatory Approvals. Each Party shall use commercially reasonable efforts to file or otherwise submit, as soon as practicable after the date of this Agreement, all applications, notices, reports and other documents reasonably required to be filed by such Party with or otherwise submitted by such Party to any Governmental Authority with respect to the Mergers and the other Contemplated Transactions, and to submit promptly any additional information requested by any such Governmental Authority.

Section 5.4 Net Cash Schedule. Parent shall prepare and deliver to the Company three (3) Business Days prior to the Closing, a schedule (the "***Net Cash Schedule***") setting forth, in reasonable detail, Parent's good faith estimate of Net Cash to be held by Parent as of the Closing, together with the work papers and back-up materials used in preparing such Net Cash Schedule.

Section 5.5 Indemnification of Officers and Directors.

(a) From and after the Effective Time, Parent and the Surviving Entity will fulfill and honor in all respects all rights to indemnification, exculpation or advancement of expenses now existing in favor of, and all limitations on the personal liability of each present and former director, officer, employee, fiduciary, or agent of Parent or the Company provided for in the respective organizational documents of Parent and the Company in effect as of the date hereof, and shall continue to be honored and in full force and effect for a period of six (6) years after the Effective Time; provided, however, that all rights to

indemnification in respect of any claims asserted or made within such period shall continue until the disposition of such claim. The certificate of incorporation of the Surviving Entity will contain provisions with respect to indemnification, exculpation from liability and advancement of expenses that are at least as favorable as those currently in the Company Charter and Company Bylaws and during such six (6) year period following the Effective Time, Parent shall not and shall cause the Surviving Entity not to amend, repeal or otherwise modify such provisions in any manner that would materially and adversely affect the rights thereunder of individuals who at any time prior to the Effective Time was a director, officer, employee, fiduciary, or agent of the Company in respect of actions or omissions occurring at or prior to the Effective Time, unless such modification is required by applicable Laws. From and after the Effective Time, Parent and the Surviving Entity also agree, jointly and severally, to indemnify and hold harmless the present and former officers, directors, employees, fiduciaries and agents of the Company in respect of acts or omissions occurring prior to the Effective Time to the extent (i) provided in any existing indemnification agreements between the Company and such individuals, or (ii) required by the Company Charter or the Company Bylaws, in each case as in effect immediately prior to the Effective Time.

(b) The Company shall purchase a six-year "tail" policy under the Company's existing directors' and officers' liability insurance policy, with an effective date as of the Closing.

(c) The provisions of this Section 5.5 are intended to be for the benefit of, and shall be enforceable by, each of the Persons indemnified hereby, and his or her heirs and Representatives, and may not be amended, altered or repealed without the written consent of any such Person affected by such amendment, alteration or repeal. The provisions in this Section 5.5 are intended to be in addition to the rights otherwise available to the current directors, officers, employees, fiduciaries and/or agents of the Company by Laws, charters, bylaws or agreements.

(d) If Parent or the Surviving Entity or any of the successors or assigns of Parent or the Surviving Entity (i) consolidates with or merges into any other Person and shall not be the continuing or surviving corporation or entity of such consolidation or merger, or (ii) transfers or conveys all or substantially all of its properties and assets to any Person, then, and in each such case, to the extent necessary, proper provision shall be made so that the successors and assigns of Parent or the Surviving Entity, as the case may be, shall assume the obligations set forth in this Section 5.5.

Section 5.6 Additional Agreements.

(a) Subject to Section 5.6(b), the Parties shall use commercially reasonable efforts to cause to be taken all actions necessary to consummate the Mergers and make effective the other Contemplated Transactions. Without limiting the generality of the foregoing, but subject to Section 5.6(b), each Party to this Agreement: (i) shall make all filings and other submissions (if any) and give all notices (if any) required to be made and given by such Party in connection with the Mergers and the other Contemplated Transactions, (ii) shall use commercially reasonable efforts to obtain each consent (if any) reasonably required to be obtained (pursuant to any applicable Law or Contract, or otherwise) by such Party in connection with the Mergers or any of the other Contemplated Transactions or for such Contract to remain in full force and effect, (iii) shall use commercially reasonable efforts to lift any injunction prohibiting, or any other legal bar to, the Mergers or any of the other Contemplated Transactions, and (iv) shall use commercially reasonable efforts to satisfy the conditions precedent to the consummation of this Agreement.

(b) Notwithstanding anything to the contrary contained in this Agreement, no Party shall have any obligation under this Agreement: (i) to dispose of or transfer or cause any of its Subsidiaries to dispose of or transfer any assets, (ii) to discontinue or cause any of its Subsidiaries to discontinue offering any product or service, (iii) to license or otherwise make available, or cause any of its Subsidiaries to license or otherwise make available to any Person any Intellectual Property, (iv) to hold separate or cause any of its Subsidiaries to hold separate any assets or operations (either before or after the Closing Date), (v) to make or cause any of its Subsidiaries to make any commitment (to any Governmental Authority or otherwise) regarding its future operations, or (vi) to contest any Legal Proceeding or any order, writ,

injunction or decree relating to the Mergers or any of the other Contemplated Transactions if such Party determines in good faith that contesting such Legal Proceeding or order, writ, injunction or decree might not be advisable.

Section 5.7 Disclosure. Without limiting any of either Party's obligations under the Confidentiality Agreement, each Party shall not, and shall not permit any of its Subsidiaries or any Representative of such Party to, issue any press release or make any public disclosure regarding the Mergers or any of the other Contemplated Transactions unless: (a) the other Party shall have approved such press release or disclosure in writing, or (b) such Party shall have determined in good faith, upon the advice of outside legal counsel, that such disclosure is required by applicable Laws, in which case such Party shall use reasonable best efforts before such press release or disclosure is issued or made, to advise the other Party of, and consult with the other Party regarding, the text of such press release or other disclosure and allow such other Party a reasonable opportunity to comment on such release or other disclosure in advance of such issuance and consider all such comments in good faith; provided, that the foregoing clause (b) shall not apply to the press release and the Current Report on Form 8-K to be filed by Parent in connection with the initial announcement of the Merger Agreement and the Contemplated Transactions; provided, further, that each of the Company and Parent may make any public statement in response to specific questions by the press, analysts, investors or those attending industry conferences or financial analyst conference calls, so long as any such statements are consistent with previous press releases, public disclosures or public statements made by the Company or Parent in compliance with this Section 5.7.

Section 5.8 Stock Exchange Listing. Parent shall use its reasonable best efforts to cause the Merger Shares to be approved for listing on NYSE MKT, subject to official notice of issuance, prior to the Effective Time.

Section 5.9 Section 16 Matters. Subject to the following sentence, prior to the Effective Time, Parent and Company will take all such steps as may be required (to the extent permitted under applicable Laws and no-action letters issued by the SEC) to cause any acquisition of Parent Common Stock (including derivative securities with respect to Parent Common Stock) by each individual who is subject to the reporting requirements of Section 16(a) of the Exchange Act with respect to Parent, to be exempt under Rule 16b-3 under the Exchange Act. At least thirty (30) days prior to the Closing Date, Company will furnish the following information to Parent for each individual who, immediately after the Effective Time, will become subject to the reporting requirements of Section 16(a) of the Exchange Act with respect to Parent: (a) the number of shares of Company Capital Stock owned by such individual and expected to be exchanged for shares of Parent Common Stock pursuant to the Merger, and (b) the number of other derivative securities (if any) with respect to Company Capital Stock owned by such individual and expected to be converted into shares of Parent Common Stock or derivative securities with respect to Parent Common Stock in connection with the Merger.

Section 5.10 Employee Benefit Matters.

(a) Effective no later than the day immediately preceding the Closing Date, Parent shall terminate (i) all Parent Employee Programs that are "employee pension benefit plans" within the meaning of ERISA, including but not limited to any Parent Employee Programs intended to include a Code Section 401(k) arrangement (each, a "***Parent 401(k) Plan***"), and (ii) each other Parent Employee Program set forth on Schedule 5.10(a) attached hereto, unless written notice is provided by the Company to Parent no later than three calendar days prior to the Closing Date, instructing Parent not to terminate any such Parent Employer Program. Parent shall provide the Company with evidence that such Parent Employee Programs have been terminated (effective no later than the day immediately preceding the Closing Date) pursuant to resolutions of Parent's Board of Directors. The form and substance of such resolutions shall be subject to review and approval of the Company. Parent also shall take such other actions in furtherance of terminating such Parent Employee Programs as the Company may reasonably require. In the event that termination of the Parent 401(k) Plans would reasonably be anticipated to trigger liquidation charges, surrender charges or other fees then Parent shall take such actions as are necessary to reasonably estimate the amount of such charges and/or fees and provide such estimate in writing to the Company no later than 14 calendar days prior to the Closing Date.

(b) Parent shall cause each Parent Employee Program to recognize each Company employee's periods of service with the Company and any ERISA Affiliate of the Company prior to the Closing Date for purposes of determining eligibility, vesting and benefit entitlement under all Parent Benefit Programs maintained by the Parent after the Closing Date, but not for purposes of determining benefit accruals under a defined benefit pension plan. The Company shall cause each Company Employee Program to recognize each Parent employee's periods of service with the Parent and any ERISA Affiliate of Parent prior to the Closing Date for purposes of determining eligibility, vesting and benefit entitlement under all Company Benefit Programs maintained by the Company after the Closing Date, but not for purposes of determining benefit accruals under a defined benefit pension plan. Notwithstanding the preceding two sentences, in no event will Parent or the Company be required to recognize service (i) to the extent it would result in the duplication of coverage or benefits, (ii) under a newly established plan for which prior service is not taken into account or (iii) with respect to any equity-based compensation.

(c) The Company shall amend the Altimmune, Inc. 401(k) Plan (the "***Company's 401(k) Plan***"), to the extent necessary (i) to allow the Parent's employees to commence participation in the Company's 401(k) Plan effective as soon as reasonably practicable following the Closing Date, to permit any Parent employee to roll over any distribution from any Parent 401(k) Plan to the Company's 401(k) Plan, and (ii) to permit any Parent employee who is a participant in a Parent 401(k) Plan and who has a loan outstanding as of the date of the Closing to roll over the note evidencing the loan, provided that such rollover election is made within 60 days following the Closing Date and that the Parent employee rolls over the entire balance of his or her account under the Parent's 401(k) Plan.

(d) This Section 5.10 shall be binding upon and inure solely to the benefit of each of the parties to this Agreement. Nothing in this Section 5.10, express or implied, will (i) constitute or be treated as an amendment of any Parent Employee Program or Company Employee Program (or an undertaking to amend any such plan), (ii) prohibit Parent, any Affiliate of Parent, the Company, or any Affiliate of the Company from amending, modifying or terminating any Parent Employee Program or Company Employee Program pursuant to, and in accordance with, the terms thereof, or (iii) confer any rights or benefits on any Person other than Parent and the Company.

Section 5.11 Tax Matters.

(a) Other than in connection with taking any action contemplated by this Agreement and the Parent Special Dividend, Parent, Merger Sub Corp, Merger Sub LLC and the Company (i) shall use their respective reasonable best efforts to cause the Mergers, together with the issuance of shares of Parent Common Stock to the Company Stockholders, to qualify as a "reorganization" under Section 368(a) of the Code, and (ii) agree not to, and not to permit or cause any affiliate or any subsidiary to, take any actions or cause any action to be taken that would or could reasonably be expected to prevent or impede the Mergers, together with the issuance of shares of Parent Common Stock to the Company Stockholders, from qualifying as a "reorganization" under Section 368(a) of the Code.

(b) This Agreement is intended to constitute, and the parties hereto hereby adopt this Agreement as, a "plan of reorganization" within the meaning Treasury Regulation Sections 1.368-1(c), 1.368-2(g) and 1.368-3(a). Parent, Merger Sub Corp, Merger Sub LLC and the Company shall treat, and shall not take any tax reporting position inconsistent with the treatment of, the Mergers, together with the issuance of shares of Parent Common Stock to the Company Stockholders, as a "reorganization" within the meaning of Section 368(a) of the Code for U.S. federal, state and other relevant Tax purposes, unless otherwise required pursuant to a "determination" within the meaning of Section 1313(a) of the Code.

(c) Prior to the Closing, Parent shall file all U.S. federal, state and local Tax Returns for income taxes required to be filed for the 2016 taxable year (regardless of when such Tax Returns are actually due), and pay all Taxes owed in connection with such Tax Returns.

Section 5.12 Cooperation. Each Party shall cooperate reasonably with the other Party and shall provide the other Party with such assistance as may be reasonably requested for the purpose of facilitating the performance by each Party of their obligations under this Agreement and to enable the combined entity to continue to meet its obligations following the Closing.

Section 5.13 Directors and Officers of Parent.

(a) At and immediately after the Effective Time, the initial size of the Board of Directors of Parent shall be seven (7).

(b) Four of the directors to serve on the Board of Directors of Parent at and immediately after the Effective Time shall be selected by the Company prior to the S-4 Effective Date, who shall serve until their respective successors are duly elected or appointed and qualified or their earlier death, resignation or removal. Parent shall take all actions necessary to cause such Company designees to be elected or appointed to the Board or Directors of Parent.

(c) Three of the directors to serve on the Board of Directors of Parent at and immediately after the Effective Time shall be selected by Parent prior to the S-4 Effective Date, who shall serve until their respective successors are duly elected or appointed and qualified or their earlier death, resignation or removal. Parent shall take all actions necessary to cause such Parent designees to be elected or appointed to the Board or Directors of Parent. If any such Person fails to serve as a member of the Board of Directors at any time prior to the election of directors at Parent's 2017 annual meeting of stockholders, Parent's Board of Directors (and all committees thereof) shall take all actions as shall be reasonably necessary or appropriate to nominate a Person designated by the remaining directors serving on the Board of Directors of Parent pursuant to this Section 5.13(c). Any director selection, appointed or elected to the Board pursuant to this Section 5.13(c) is sometimes referred to herein as a "***Section 5.13 Director***"

(d) At and immediately after the Effective Time, the officers of Parent shall be those Persons specified in Schedule 5.13.

(e) Parent's Board of Directors (and all committees thereof) shall take all actions as shall be reasonably necessary or appropriate to nominate for election at Parent's 2017 annual meeting of stockholders at least three directors jointly recommended by the Section 5.13 Directors; provided that the Section 5.13 Directors shall jointly identify and present at least five candidates for consideration by Parent's Board of Directors Nominating and Governance Committee no later than five Business Days prior to the specified meeting of Parent' Board of Directors Nominating and Governance Committee which is called for the purpose of finalizing the directors to be proposed for election at the Parent's 2017 annual meeting of stockholders.

(f) Parent's Board of Directors (and all committees thereof) shall take all actions as shall be reasonably necessary or appropriate to nominate for election at Parent's 2018 annual meeting of stockholders at least two directors jointly recommended by the Section 5.13 Directors; provided that the Section 5.13 Directors shall jointly identify and present at least four candidates for consideration by Parent's Board of Directors Nominating and Governance Committee no later than five Business Days prior to the specified meeting of Parent' Board of Directors Nominating and Governance Committee which is called for the purpose of finalizing the directors to be proposed for election at the Parent's 2018 annual meeting of stockholders.

Section 5.14 Stockholder Litigation. Until the earlier of the termination of this Agreement in accordance with its terms or the Effective Time, Parent, on the one hand, and the Company, on the other hand, shall give the other Party the opportunity to participate in the defense or settlement of any stockholder litigation relating to this Agreement or any of the Contemplated Transactions, and shall not settle any such litigation without the other Party's written consent, which will not be unreasonably withheld, conditioned or delayed.

Section 5.15 Securityholder List. At least five (5) Business Days prior to the Effective Time, the Company shall deliver to Parent a true, correct and complete list, as of that date, of all issued and outstanding shares of the capital stock of the Company on a holder-by-holder basis.

Section 5.16 Reverse Split. Parent shall submit to the Parent Stockholders at the Parent Stockholder Meeting a proposal to approve and adopt an amendment to the Parent Charter to authorize the Board of Directors of Parent to effect a reverse stock split prior to the Effective Time of all outstanding shares of Parent Common Stock at a reverse stock split ratio in the range mutually agreed to by the Company and the Board

of Directors of Parent (the "***Reverse Stock Split***"), and shall take such other actions as shall be reasonably necessary to effectuate the Reverse Stock Split prior to the Effective Time.

Section 5.17 Company Flu Development Plan and Budget. Within 30 days of the execution of this Agreement, representatives of Parent and the Company shall mutually select one or more experts in the field of drug development to review the clinical development plan and budget for the Company's flu program set forth on Section 5.17 of the Company Disclosure Schedule (the "***Draft Flu Clinical Development Plan***"). Promptly after such mutual agreement, the Company shall engage such experts to review the Draft Flu Clinical Development Plan and to prepare and deliver a report within ten (10) days after their engagement that analyzes the Draft Flu Clinical Development Plan and identifies potential changes, additions and revisions to the Draft Flu Clinical Development Plan as such experts deem necessary or appropriate based on their expertise and experience with similar plans and budgets and development programs. Promptly after receipt of such report, Parent and the Company shall agree in good faith on changes to the Draft Flu Clinical Development Plan based on the experts report (such revised plan, the "***Final Flu Clinical Development Plan***").

ARTICLE 6
CONDITIONS PRECEDENT

Section 6.1 Conditions to Each Party's Obligation to Effect the Merger. The obligations of each Party to effect the Mergers and otherwise consummate the transactions to be consummated at the Closing are subject to the satisfaction or, to the extent permitted by applicable Law, the written waiver by each of the Parties, at or prior to the Closing, of each of the following conditions:

(a) No Restraints. No temporary restraining order, preliminary or permanent injunction or other order preventing the consummation of the Mergers shall have been issued by any court of competent jurisdiction or other Governmental Authority and remain in effect, and there shall not be any Law which has the effect of making the consummation of the Mergers illegal.

(b) Stockholder Approval. This Agreement, the Mergers and the other Contemplated Transactions shall have been duly adopted and approved by the Company Stockholder Approval, and the Parent Stockholder Proposals shall have been duly approved by the Parent Stockholder Approval.

(c) S-4 Registration Statement. The Form S-4 Registration Statement shall have become effective in accordance with the provisions of the Securities Act, and shall not be subject to any stop order or proceeding (or threatened proceeding by the SEC) seeking a stop order with respect to the Form S-4 Registration Statement.

Section 6.2 Additional Conditions Precedent to Obligation of Parent. The obligations of Parent, Merger Sub Corp and Merger Sub LLC to effect the Mergers and otherwise consummate the transactions to be consummated at the Closing are subject to the satisfaction or the written waiver by Parent, at or prior to the Closing, of each of the following conditions:

(a) Accuracy of Representations. The representations and warranties of the Company contained in Article 2 of this Agreement shall be true and correct on and as of the Closing Date with the same force and effect as if made on the Closing Date (except for those representations and warranties which address matters only as of a particular date, which representations need only to be true and correct as of such particular date), except where the failure to be true and correct has not had, and would not reasonably be expected to have, a Company Material Adverse Effect.

(b) Performance of Covenants. Each of the covenants and obligations in this Agreement that the Company is required to comply with or to perform at or prior to the Closing shall have been complied with and performed by the Company in all material respects.

(c) Officers' Certificate. Parent shall have received a certificate executed by the Chief Executive Officer and Chief Financial Officer of the Company confirming that the conditions set forth in Section 6.2(a) and Section 6.2(b) have been duly satisfied.

(d) No Company Material Adverse Effect. Since the date of this Agreement, there shall not have occurred any Company Material Adverse Effect.

(e) Company Private Placement. The Company Private Placement shall have been consummated and the Company shall have received an aggregate of at least $3,500,000 of gross proceeds prior to the Effective Time and the Company Financing Agreement shall not have been amended without the prior consent of Parent (other than any amendment that is made solely for the purpose of assigning the funding obligation of one of the investors party thereto to either an affiliate of such investor or another stockholder of the Company).

(f) Company Indebtedness and Specified Liabilities. The total amount of (i) Indebtedness of the Company (excluding the Company's two non-interest bearing research funding arrangements with Banque Publique d'Investissement (BPI France)) and (ii) the aggregate amount of the Liabilities of the Company set forth on Section 6.2(f) of the Company Disclosure Schedule, as of the Effective Time, shall not exceed $2,500,000 and all excess Indebtedness and excess Liabilities shall have been repaid, settled or extinguished and the Company shall have provided evidence reasonably satisfactory to Parent of the repayment, settlement or extinguishment of such excess Indebtedness and Liabilities.

(g) Clinical Development Plan and Budget. Parent and the Company shall have agreed in good faith on a Final Flu Clinical Development Plan as contemplated by Section 5.17. The obligations of Parent, Merger Sub Corp and Merger Sub LLC to effect the Mergers and otherwise consummate the transactions to be consummated at the Closing shall not be subject to the satisfaction or written waiver by Parent of the condition in this Section 6.2(g) if the failure to satisfy the condition in this Section 6.2(g) shall have been caused by the failure of Parent to act in good faith to agree upon a Final Flu Clinical Development Plan.

Section 6.3 Additional Conditions Precedent to Obligation of the Company. The obligations of the Company to effect the Mergers and otherwise consummate the transactions to be consummated at the Closing are subject to the satisfaction or the written waiver by the Company, at or prior to the Closing, of each of the following conditions:

(a) Accuracy of Representations. The representations and warranties of Parent contained in Article 3 of this Agreement shall be true and correct on and as of the Closing Date with the same force and effect as if made on the Closing Date (except for those representations and warranties which address matters only as of a particular date, which representations shall have been true and correct as of such particular date), except in each case where the failure to be true and correct has not had, and would not reasonably be expected to have, a Parent Material Adverse Effect.

(b) Performance of Covenants. All of the covenants and obligations in this Agreement that Parent, Merger Sub Corp or Merger Sub LLC is required to comply with or to perform at or prior to the Closing shall have been complied with and performed in all material respects.

(c) Officers' Certificates. The Company shall have received (a) a certificate executed by the Chief Executive Officer of Parent confirming that the conditions set forth in Section 6.3(a) and Section 6.3(b) have been duly satisfied, and (b) three (3) days prior to the Closing and at Closing, a certificate executed by the Chief Financial Officer of Parent certifying that the contents of the Net Cash Schedule, as well as the work papers and back-up materials provided therewith, are true and correct in all respects and that the Net Cash Condition has been satisfied.

(d) No Parent Material Adverse Effect. Since the date of this Agreement, there shall not have occurred any Parent Material Adverse Effect.

(e) NYSE MKT. The Merger Shares shall have been approved for listing on NYSE MKT LLC, subject to official notice of issuance.

(f) Minimum Net Cash. The Net Cash of Parent at the Closing shall not be less than $10,250,000 (the "***Net Cash Condition***").

(g) Change in Tax Law. There shall not have been any change in Law which, in the reasonable and good faith judgment of the Company, based upon the written opinion of outside counsel, has, or is more likely than not to have, the effect of making the Mergers, together with the issuance of shares of

Parent Common Stock to the stockholders of the Company, not qualify as a "reorganization" within the meaning of Section 368(a) of the Code.

(h) Tax Returns. Parent shall have filed all U.S. Tax Return and all State Tax Returns for income taxes required to be filed for the 2016 taxable year (regardless of when such Tax Returns are actually due), and shall have paid all such income taxes shown as due such Tax Returns.

ARTICLE 7
TERMINATION

Section 7.1 Termination. This Agreement may be terminated prior to the Effective Time (whether before or after adoption of this Agreement by the Company's stockholders and whether before or after approval of the Mergers and issuance of Parent Common Stock in the Mergers by Parent's stockholders, unless otherwise specified below):

(a) by mutual written consent of Parent and the Company duly authorized by the Boards of Directors of Parent and the Company;

(b) by either Parent or the Company if the Mergers shall not have been consummated by June 30, 2017 (the "***Outside Date***"); provided, however, that the right to terminate this Agreement under this Section 7.1(b) shall not be available to any Party whose action or failure to act has been a principal cause of the failure of the Mergers to occur on or before such date and such action or failure to act constitutes a breach of this Agreement;

(c) by either Parent or the Company if a court of competent jurisdiction or other Governmental Authority shall have issued a final and nonappealable order, decree or ruling, or shall have taken any other action, having the effect of permanently restraining, enjoining or otherwise prohibiting the Merger; provided, however, that a Party shall not be permitted to terminate this Agreement pursuant to this Section 7.1(c) if the issuance of any such order, decree, ruling or other action shall have been caused by the action or failure to act of such Party and such action or failure to act constitutes a material breach by such party of this Agreement;

(d) by Parent if a court of competent jurisdiction shall have issued an order, decree or ruling having the effect of restraining, enjoining or otherwise prohibiting the Mergers on the grounds that it violates the terms of the DGCL in response to any action initiated by any stockholder of the Company and such order, decree or ruling, or other action shall not have been reversed prior to the Outside Date;

(e) by Parent, if Company Voting Agreements from the holders of at least 65% of the outstanding shares of the Company Class A Common Stock are not delivered to Parent by 5:00 p.m. Eastern time on the Business Day after the date this Agreement is executed by the Parties;

(f) by either Parent or the Company if (i) the Parent Stockholder Meeting (including any adjournments and postponements thereof) shall have been held and completed and Parent's stockholders shall have taken a vote on the Parent Stockholder Proposals and such Parent Stockholder Proposals shall not have been approved at the Parent Stockholder Meeting (or at any adjournment or postponement thereof) by the Parent Stockholder Approval; provided, however, that the right to terminate this Agreement under this Section 7.1(f) shall not be available to Parent where the failure to obtain the Parent Stockholder Approval shall have been caused by the action or failure to act of Parent and such action or failure to act constitutes a material breach by Parent of this Agreement;

(g) by the Company (at any time prior to the Parent Stockholder Approval) if (i) a Parent Change of Recommendation shall have occurred, (ii) Parent fails to include the Parent Recommendation in the Proxy Statement, (iii) the Board of Directors of Parent fails to publicly recommend against any Parent Acquisition Proposal within ten (10) Business Days of the request of the Company to do so or fails to reaffirm (publicly, if so requested) the Parent Recommendation within ten (10) Business Days of the Company's request to do so, or (iv) Parent shall have breached in any material respect any of its covenants or obligations under Section 4.5(b) or Section 5.2(a) of this Agreement;

(h) by the Company, upon a breach of any representation, warranty, covenant or agreement on the part of Parent, Merger Sub Corp or Merger Sub LLC set forth in this Agreement, or if any representation

or warranty of Parent shall have become inaccurate, in either case such that the conditions set forth in Section 6.3(a) or Section 6.3(b) would not be satisfied as of the time of such breach or as of the time such representation or warranty shall have become inaccurate, provided that if such inaccuracy in Parent's representations and warranties or breach by Parent is curable by Parent prior to the Outside Date, then this Agreement shall not terminate pursuant to this Section 7.1(h) as a result of such particular breach or inaccuracy until the earlier of (i) the expiration of a 30 day period commencing upon delivery of written notice from the Company to Parent of such breach or inaccuracy, and (ii) Parent ceasing to exercise commercially reasonable efforts to cure such breach (it being understood that this Agreement shall not terminate pursuant to this Section 7.1(h) as a result of such particular breach or inaccuracy if such breach by Parent is cured prior to such termination becoming effective); provided, further, that the Company shall not have the right to terminate this Agreement pursuant to this Section 7.1(h) if the Company is then in material breach of any representation, warranty, covenant or obligation hereunder, which breach has not been cured;

(i) by Parent, upon a breach of any representation, warranty, covenant or agreement on the part of the Company set forth in this Agreement, or if any representation or warranty of the Company shall have become inaccurate, in either case such that the conditions set forth in Section 6.2(a) or Section 6.2(b) would not be satisfied as of the time of such breach or as of the time such representation or warranty shall have become inaccurate, provided that if such inaccuracy in the Company's representations and warranties or breach by the Company is curable by the Company prior to the Outside Date, then this Agreement shall not terminate pursuant to this Section 7.1(i) as a result of such particular breach or inaccuracy until the earlier of (i) the expiration of a 30 day period commencing upon delivery of written notice from Parent to the Company of such breach or inaccuracy, and (ii) the Company ceasing to exercise commercially reasonable efforts to cure such breach (it being understood that this Agreement shall not terminate pursuant to this Section 7.1(i) as a result of such particular breach or inaccuracy if such breach by the Company is cured prior to such termination becoming effective); provided, further, that Parent shall not have the right to terminate this Agreement pursuant to this Section 7.1(i) if Parent is then in material breach of any representation, warranty, covenant or obligation hereunder, which breach has not been cured; or

(j) by Parent (at any time prior to the Parent Stockholder Approval) if each of the following occur: (A) Parent shall have received a Parent Superior Offer, (B) Parent shall have complied with its obligations under Section 4.5(b) in order to accept such Parent Superior Offer, (C) the Board of Directors of Parent approves, and Parent concurrently with the termination of this Agreement enters into, a definitive agreement with respect to such Parent Superior Offer, and (D) prior to or concurrently with such termination, Parent pays to the Company the amount contemplated by Section 7.3(e).

Section 7.2 Effect of Termination. In the event of the termination of this Agreement as provided in Section 7.1, written notice thereof shall be given to the other party or parties, specifying the provisions hereof pursuant to which such termination is made and describing the basis therefor in reasonable detail, and this Agreement shall be of no further force or effect; provided, however, that (a) this Section 7.2, Section 5.7, Section 7.3, Section 8.8(c) and Article 9 and the definitions of the defined terms contained in such Sections and the Confidentiality Agreement shall survive the termination of this Agreement and shall remain in full force and effect, and (b) the termination of this Agreement shall not relieve any Party from any liability or damages resulting from or arising out of any fraud or willful or intentional breach of any representation, warranty, covenant, obligation or other provision contained in this Agreement.

Section 7.3 Expenses; Termination Fees.

(a) Except as set forth in this Section 7.3, all fees and expenses incurred in connection with this Agreement and the Contemplated Transactions shall be paid by the Party incurring such expenses, whether or not the Mergers are consummated.

(b) If this Agreement is terminated by the Company pursuant to Section 7.1(h), Parent shall pay to the Company within two (2) Business Days after termination of the Agreement an amount equal to the total documented expenses incurred by the Company or the Company's stockholders and their respective

Affiliates in connection with the negotiation and execution of this Agreement and the Contemplated Transactions, not to exceed $250,000 in the aggregate.

(c) If this Agreement is terminated by Parent pursuant to Section 7.1(i) or Section 7.1(e), the Company shall pay to Parent within two (2) Business Days after termination of the Agreement an amount equal to the total documented expenses incurred by Parent in connection with the negotiation and execution of this Agreement and the Contemplated Transactions, not to exceed $250,000 in the aggregate.

(d) If this Agreement is terminated by Parent pursuant to Section 7.1(d), the Company shall pay to Parent within two (2) Business Days after termination of the Agreement an amount equal to the total documented expenses incurred by Parent in connection with the negotiation and execution of this Agreement and the Contemplated Transactions and in connection with any action initiated by any stockholder of the Company, not to exceed $1,000,000 in the aggregate.

(e) Parent shall pay the Company a termination fee of $2,000,000 (the "***Parent Termination Fee***") in the event of the termination of this Agreement by Parent pursuant to Section 7.1(j).

(f) Parent shall pay the Company the Parent Termination Fee in the event of the termination of this Agreement by the Company pursuant to Section 7.1(g)(i) through (iii) (or by Parent pursuant to Section 7.1(f) and at the time of such termination the Company would have been permitted to terminate this Agreement pursuant to Section 7.1(g)(i) through (iii)), in each case so long as (i) prior to the termination of this Agreement, any person makes a Parent Superior Offer and (ii) within nine (9) months after such termination Parent consummates any Parent Acquisition Proposal that would have constituted a Parent Superior Offer had such Parent Acquisition Proposal been made prior to the time of termination.

(g) Any Parent Termination Fee due under Section 7.3(e) shall be paid by wire transfer of same day funds in accordance with Section 7.1(j). Any Parent Termination Fee due under Section 7.3(f) shall be paid by wire transfer of same day funds within two (2) Business Days after the date that the transactions contemplated by a definitive agreement referenced in clause (ii) of such Section 7.3(f) are consummated.

(h) Each of the Parties acknowledges that (i) the agreements contained in this Section 7.3 are an integral part of the transactions contemplated by this Agreement, (ii) the Parent Termination Fee is not a penalty, but is liquidated damages, in a reasonable amount that will compensate the Company in the circumstances in which such fee is payable for the efforts and resources expended and opportunities foregone while negotiating this Agreement and in reliance on this Agreement and on the expectation of the consummation of the Contemplated Transactions, which amount would otherwise be impossible to calculate with precision, and (iii) without these agreements, the Parties would not enter into this Agreement; accordingly, if either Party fails to pay when due any amount payable by such Party under this Section 7.3, then such Party shall reimburse the other Party for reasonable costs and expenses (including reasonable fees and disbursements of counsel) incurred in connection with the collection of such overdue amount and the enforcement by the other Party of its rights under this Section 7.3.

ARTICLE 8
INDEMNIFICATION

Section 8.1 Indemnification by the Company Stockholders. Subject to the terms and conditions set forth herein, from and after the Closing, each of the Company Stockholders, solely from the Escrow Account and subject to the limitations set forth in Section 8.4 below, severally and not jointly, will indemnify and hold harmless Parent and its directors, officers, employees and subsidiaries (the "***Parent Indemnified Persons***"), and will reimburse the Parent Indemnified Persons for, any loss, liability, damage or expense, including reasonable attorneys' fees and expenses (collectively, "*Losses*") incurred by the Parent Indemnified Persons or the stockholders of Parent arising or resulting from or in connection with (a) any breach of any representation or warranty made by the Company in Article 2 of this Agreement other than a breach of Section 2.25, (b) any breach of the representation made in Section 2.25, solely to the extent such Losses are payable pursuant to a Third Party Claim, (c) any breach of any covenant or agreement of the Company in Article 4 or Article 5 of this Agreement (d) the failure of the parties to the Company Financing Agreement to purchase Parent Common Stock in the Post-Closing Private Placement in accordance with the terms of the Company Financing

Agreement. All claims for indemnification under this Section 8.1 shall be administered by Parent for itself and on behalf of all other Parent Indemnified Persons in accordance with Section 8.6.

Section 8.2 No Indemnification by Parent or the Surviving Entity. Neither Parent nor the Surviving Entity shall have any obligation to indemnify the Company Stockholders for any breach of any representation or warranty made by, or any covenant or agreement of, Parent, Merger Sub Corp or Merger Sub LLC in this Agreement. None of the representations, warranties, covenants, or agreements of Parent or Merger Sub in this Agreement or in any document or instrument delivered pursuant to this Agreement shall survive the Mergers or the termination of this Agreement.

Section 8.3 Indemnification Limitation — Survival. All representations and warranties of the Company contained in Article 2 of this Agreement shall survive the Closing and shall continue in full force and effect until the date that is twelve (12) months after the Closing Date (the "***Indemnity Period***"). All covenants and other obligations of the Company contained in this Agreement shall continue in full force and effect until the earlier of such time as (i) such covenants or obligations expire, (ii) such covenants or obligations are fully performed and satisfied, or (iii) the expiration of the statute of limitations with respect to a breach of such covenants or obligations, in each case in accordance with the respective terms of such covenants and obligations set forth in this Agreement. No claim may be made or any Legal Proceeding initiated by any Parent Indemnified Person after the expiration of the Indemnity Period. The right to indemnification based upon such representations, warranties, covenants and obligations shall not be affected by any examination, inspection, audit, or other investigation conducted by Parent with respect to, or any knowledge acquired at any time with respect to, the accuracy or inaccuracy of or compliance with any such representation, warrant, covenant or obligation, unless Parent had such knowledge at the time of Closing.

Section 8.4 Indemnification Limitations.

(a) No Company Stockholder shall have any obligation to indemnify the Parent Indemnified Persons under Section 8.1, and no such indemnification claims shall be brought against any Company Stockholder (i) for any individual claim where the Loss relating thereto (including all related claims) is less than $50,000, and (ii) unless and until the total of all such Losses for all claims for indemnification made by the Parent Indemnified Persons under Section 8.1 in excess of $50,000 individually exceeds $1,000,000 in the aggregate, in which event the Company Stockholders shall be liable solely for all such Losses in excess of $1,000,000 (the "***Deductible***"); provided, however, that to the extent that (x) such Losses arise or result from a breach of a representation or warranty made by the Company in Article 2 of this Agreement and (y) if such representation or warranty were qualified by reference to the information set forth or otherwise disclosed in the Company SEC Report, the action, event or occurrence resulting in such Losses would not have constituted a breach of such representation or warranty (or such action, event or occurrence was otherwise set forth or disclosed in the Company SEC Report), then the Deductible shall be $2,000,000 for all purposes hereunder.

(b) No Company Stockholder shall have any obligation to indemnify the Parent Indemnified Persons under Section 8.1, and no such indemnification claims shall be brought against any Company Stockholder for an amount of Losses incurred by the Parent Indemnified Persons in excess of such Company Stockholder's Pro Rata Share of the Escrow Shares (such aggregate amount, the "***Indemnification Cap***"); provided, however, that the maximum obligation of the Company Stockholders to indemnify the Parent Indemnified Persons for claims brought pursuant to Section 8.1(d) shall not exceed an amount equal to (x) $5,000,000 minus (y) the aggregate amount invested by the Company Stockholders after the Closing to purchase shares of Parent Common Stock pursuant to the terms of the Company Financing Agreement in the Post-Closing Private Placement. It is understood and agreed by the Parties (on behalf of themselves and all Parent Indemnified Persons) that recourse by the Parent Indemnified Persons to the Escrow Fund shall constitute the sole and exclusive remedy of the Parent Indemnified Persons for all Losses that are to be indemnified by the Company Stockholders hereunder.

(c) Notwithstanding any other provision of this Agreement, no Company Stockholder or any of its Affiliates shall have liability for any consequential, incidental, indirect, special or punitive damages whatsoever and Losses indemnifiable hereunder shall not include such damage, except to the extent, if any, a Company Stockholder is held liable for such damages to a third party.

(d) The calculation of any Loss subject to indemnification under this Article 8 will reflect and be offset by an amount equal to (i) the amount of any insurance proceeds, indemnification payments, contribution payments, or reimbursements received or receivable by the Parent Indemnified Persons in connection with such Loss or the circumstances giving rise thereto, net of any cost or increase in premiums resulting therefrom; and (ii) any Liability or Loss arising or resulting from or in connection with any breach of the representations and warranties in Section 3.13 of this Agreement (for this purpose, (1) treating those representations and warranties as surviving until any indemnification claim under this Article 8 has been resolved, (2) determining whether a breach has occurred, and the amount of any Liability or Loss, without regard to Section 3.13(o) and (3) for treating all Tax Returns of Parent for income taxes for the 2016 taxable year as subject to those representations and warranties). In valuing a Loss, no adjustment shall be made as a result of any multiple, increase factor, or any other premium over book value which may have been used in determining the Exchange Ratio whether or not such multiple, increase factor or other premium had been used at the time of, or in connection with, determining the Exchange Ratio.

(e) Parent, Merger Sub Corp and Merger Sub LLC have not relied on, and none of the Company, the Securityholders' Representative or any Company Stockholder or any of their respective Affiliates or Representatives has made any representation or warranty whatsoever, except as and to the extent set forth in this Agreement, and disclaims all liability and responsibility for any representation or warranty made or communicated (orally or in writing) to Parent, any of its Affiliates or any of their respective Representatives (including any opinion, information or advice which may have been provided to the any such Person by any officer, stockholder, director, employee, agent, consultant or representative of the disclosing party or by any accounting firm, counsel or any other agent, consultant or representative of the disclosing party).

(f) Inclusion of a matter on the Company Disclosure Schedule with respect to a representation or warranty which addresses matters being material or having a Company Material Adverse Effect shall not be deemed an indication that such matter does, or may, be material or have a Company Material Adverse Effect. Matters may be disclosed on the Company Disclosure Schedule to this Agreement for purposes of information only.

Section 8.5 Indemnity Escrow; Distribution from Indemnity Escrow.

(a) Indemnity Escrow. To secure each the Company Stockholders' performance of its indemnity obligations under this Article 8, on the Closing Date, pursuant to Section 1.8(a), Parent shall deliver to the Escrow Agent the Escrow Shares, which shall be held by the Escrow Agent in one escrow account (the "***Escrow Fund***") established with the Escrow Agent in accordance with the terms and conditions of the Escrow Agreement. The Escrow Agreement shall have a term lasting until the later of (i) the end of the Indemnity Period, and (ii) such time that all valid claims made against the Escrow Fund prior to the expiration of the Indemnity Period have been fully resolved. The fees and expenses of the Escrow Agent under the Escrow Agreement shall be borne by Parent. Any reduction in, or claim against, the Escrow Shares pursuant to this Agreement shall be made on a pro rata basis among all the Company Stockholders based on their Pro Rata Share.

(b) Distribution from Escrow.

(i) As soon as reasonably practicable (but in any event within ten (10) Business Days) following the expiration of the Indemnity Period, the Escrow Agent shall release to the Company Stockholders, at their respective addresses and in accordance with their respective Pro Rata Shares, the Escrow Dividends (as defined below) and all of the remaining Escrow Shares, if any, in excess of (i) any Escrow Shares delivered by the Escrow Agent to Parent in satisfaction of Losses incurred thereby, and (ii) any amount of Escrow Shares that is necessary to satisfy all unresolved, unsatisfied or disputed claims for Losses specified in any valid Third Party Claim Notice or other valid claim notice delivered to the Securityholders' Representative before the expiration of the Indemnity Period. If any claims for Losses are unresolved, unsatisfied or disputed as of the expiration of the Indemnity Period, then the Escrow Agent shall retain possession of that number of Escrow Shares equal to the total maximum amount of Losses then being claimed by the Parent Indemnified Persons in all such

unresolved, unsatisfied or disputed claims, and as soon as reasonably practicable (but in any event within ten (10) Business Days) following resolution of all such claims, Escrow Agent shall release to the Company Stockholders, at their respective addresses and in accordance with their respective Pro Rata Shares of the Escrow Shares, all remaining Escrow Shares, if any, not required to satisfy such claims. Such releases of Escrow Dividends shall be made by check or wire transfer, at the option of Parent. If the number of Escrow Shares to be distributed to any Company Stockholder is not evenly divisible by one, Parent shall round to the nearest whole share.

(ii) If it is determined under the terms of this Agreement or by mutual agreement of Parent and the Securityholders' Representative that the Company Stockholders have an obligation to indemnify the Parent Indemnified Persons for a claim pursuant to Section 8.1, then Parent shall make such claim against the Escrow Fund in accordance with the terms and conditions of the Escrow Agreement and any Losses for which such the Parent Indemnified Persons are entitled to indemnification shall be recovered or paid from each Company Stockholder's Pro Rata Share of the Escrow Fund in accordance with the terms of this Agreement and the Escrow Agreement until the aggregate amount of such Losses are paid or until the Escrow Fund has been depleted.

(c) Distributions on Escrow Shares. Any dividends or distributions payable in shares of Parent Common Stock or other equity securities or issued upon a stock split made in respect of any Escrow Shares shall be considered Escrow Shares hereunder. Cash dividends and any other dividends or distributions in kind on the Escrow Shares ("***Escrow Dividends***") shall be distributed to the Company Stockholders in accordance with their respective Pro Rata Shares within ten (10) Business Days following the expiration of the Indemnity Period.

(d) Voting of Escrow Shares. The Company Stockholders on whose behalf Escrow Shares are held by Escrow Agent shall be entitled to vote such shares. Parent need not forward proxy information, annual or other reports or other information with respect to the Escrow Shares to the Company Stockholders to the extent such documents or materials are otherwise furnished by Parent with respect to other shares of Parent Common Stock distributed to such holders pursuant to this Agreement.

(e) No Transfer or Encumbrance. To the extent permitted by applicable law, no Escrow Shares, Escrow Dividends, or any beneficial interest therein may be pledged, encumbered, sold, assigned or transferred (including any transfer by operation of law), by Parent or any Company Stockholder or be taken or reached by any legal or equitable process in satisfaction of any debt or other liability of Parent or the Company Stockholder or used for any reason, prior to (i) in the case of Parent, the retention of Escrow Shares in satisfaction of a resolved claim for Losses, or (ii) in the case of the Company Stockholders with respect to any Escrow Shares or Escrow Dividends, the release by Escrow Agent to the Company Stockholders of Escrow Shares and Escrow Dividends, in accordance with this Agreement, except that the Company Stockholders shall be entitled to assign their rights to the Escrow Shares, Escrow Dividends, by will, by the laws of intestacy or by other operation of law.

Section 8.6 Indemnification Decisions; Decisions to Enforce the Company Financing Agreement. All decisions to make a claim for indemnification pursuant to Section 8.1 or to settle or abandon any such claim shall be made solely by the Section 5.13 Directors. Any decision to seek a legal remedy for any breach of the terms of the Company Financing Agreement or to otherwise enforce its terms may be made by at least two Section 5.13 Directors. Any decision to waive or amend the terms of the Company Financing Agreement must include the consent of at least one of the Section 5.13 Directors. Except as expressly provided in the immediately preceding sentence, after the Effective Time, nothing contained herein shall limit the ability of the Board of Directors of Parent to take any action at any time with the consent of a majority of the members thereof at such time. If the requisite number of Section 5.13 Directors approve the taking of any action explicitly required or permitted to be taken pursuant to this Section 8.6 upon such approval (a "***Section 8.6 Action***"), the Board of Directors of Parent shall promptly authorize the taking of such Section 8.6 Action and shall cause Parent and its officers to promptly take all actions that are reasonably necessary or appropriate to effect and implement such Section 8.6 Action, which may include engaging legal counsel and other advisors as may be requested by the Section 5.13 Directors, making claims against the Escrow Fund and initiating litigation to enforce the rights of Parent under Section 8.1.

Section 8.7 Indemnification Procedures.

(a) Parent (the "***Claiming Party***") shall give the Securityholders' Representative prompt written notice of any claim of a Person other than a Parent Indemnified Person, the stockholders of Parent or any Affiliate or Representative of any of the foregoing during the Indemnity Period (a "***Third Party Claim***") as to which the Claiming Party proposes to demand indemnification hereunder, within ten (10) days after learning of such Third Party Claim (or within such shorter time as may be necessary to give the Securityholders' Representative a reasonable opportunity to respond to such claim and, in any event, prior to the expiration of the Indemnity Period), together with a statement setting forth in reasonable detail the nature and basis of such Third Party Claim and providing copies of the relevant documents evidencing such Third Party Claim, the amount of the claim, and the basis for the indemnification sought (such notice, statement and documents together, the "***Third Party Claim Notice***"). The Third Party Claim Notice shall (i) describe the claim in reasonable detail, and (ii) indicate the amount (estimated, if necessary, and to the extent feasible) of the Losses that have been or may be suffered by the Claiming Party with respect to such Third Party Claim. The failure to give a Third Party Claim Notice to the Securityholders' Representative shall not relieve the Company Stockholders of any liability hereunder unless the Company Stockholders were prejudiced thereby under this Article 8, and then only to the extent of such prejudice. The Securityholders' Representative must provide written notice to the Claiming Party that it is either (i) assuming responsibility for the Third Party Claim, or (ii) disputing the claim for indemnification (such notice, the "***Indemnification Notice***"). The Indemnification Notice must be provided by the Securityholders' Representative to the Claiming Party within forty-five (45) days after receipt of the Third Party Claim Notice from the Claiming Party (such period is referred to herein as the "***Indemnification Notice Period***"). Parent shall conduct the defense and compromise and settle such Third Party Claim in any manner Parent may deem reasonably appropriate.

(b) If a dispute regarding the indemnification obligation of the Company Stockholders with respect to such Third Party Claim has been finally resolved by a court or other tribunal of competent jurisdiction, or by mutual agreement of the Claiming Party and Securityholders' Representative, to provide for indemnification by the Company Stockholders' of such Third Party Claim, subject to the provisions of this Article 8, the Escrow Agent shall within ten (10) days of the date of such resolution or agreement pay to the Claiming Party all damages paid or incurred by the Claiming Party in connection therewith by transferring to Parent of a portion of the applicable Escrow Fund in an amount equal to such liability.

(c) In the event any Claiming Party should have a claim against the Company Stockholders for indemnification of Losses pursuant to Section 8.1 during the Indemnity Period (other than in connection with a Third Party Claim), such Claiming Party shall deliver prompt notice of such claim to (i) the Securityholders' Representative within fifteen (15) days after learning of such claim (or within such shorter time as may be necessary to give the Securityholders' Representative a reasonable opportunity to respond to such claim and, in any event, prior to the expiration of the Indemnity Period), and (ii) to the Escrow Agent, stating (A) that the Claiming Party has paid or reserved the Losses, and (B) in reasonable detail the nature and basis of such claim and providing copies of the relevant documents evidencing such claim, the amount of the claim, and the basis for the indemnification sought. Notwithstanding the foregoing, the failure of the Claiming Party to give such notice to the Securityholders' Representative or the Escrow Agent shall not relieve the Company Stockholders of any liability hereunder unless the Company Stockholders were prejudiced thereby under this Article 8, and then only to the extent of such prejudice. If the Securityholders' Representative notifies the Claiming Party that it does not dispute the claim described in such notice or fails to notify the Claiming Party within forty-five (45) days after delivery of such notice by the Claiming Party whether the Securityholders' Representative disputes the claim described in such notice, the Loss in the amount specified in the Claiming Party's notice shall be conclusively deemed a liability of the Company Stockholders and, subject to the limitations set forth in this Article 8, the Escrow Agent shall cause the transfer to Parent of a portion of the applicable Escrow Fund in an amount equal to such liability. If the Securityholders' Representative has timely disputed the liability with respect to such claim, the dispute shall be resolved by mutual agreement of the Claiming Party and Securityholders' Representative, or in the absence of such agreement, by a court or other tribunal of competent jurisdiction. With respect to any such liability, the Escrow Agent, on behalf of the

Company Stockholders, shall transfer to Parent a portion of the applicable Escrow Fund in an amount equal to such liability, no later than ten (10) days following the determination of the Company Stockholders' liability (whether such determination is made pursuant to the procedures set forth in this Section 8.7(c), by agreement between the Securityholders' Representative and the Claiming Party or by final adjudication).

Section 8.8 Securityholders' Representative.

(a) The Securityholders' Representative shall act as the representative of the Company Stockholders for purposes of this Agreement. At the Closing, Shareholder Representative Services LLC shall be constituted and appointed as the Securityholders' Representative.

(b) For purposes of this Agreement, the term "***Securityholders' Representative***" shall mean the representative, agent and attorney-in-fact for and on behalf of the Company Stockholders for all purposes in connection with this Agreement and the agreements ancillary hereto, including to: (i) execute, as Securityholders' Representative, this Agreement, the Escrow Agreement and any agreement or instrument entered into or delivered in connection with the transactions contemplated hereby, (ii) give and receive notices, instructions, and communications permitted or required under this Agreement, the Escrow Agreement, or any other agreement, document or instrument entered into or executed in connection herewith, for and on behalf of any Company Stockholder, to or from Parent (on behalf of itself or any other the Parent Indemnified Person) and/or the Escrow Agent relating to this Agreement, the Escrow Agreement or any of the transactions and other matters contemplated by hereby or thereby (except to the extent that this Agreement expressly contemplates that any such notice or communication shall be given or received by each the Company Stockholder individually), (ii) review, negotiate and agree to and authorize transfers to Parent from the Escrow Fund in satisfaction of Losses incurred by Parent (on behalf of itself or any other the Parent Indemnified Person) pursuant to Article 8, (iii) object to such claims pursuant to Article 8, (iv) consent or agree to, negotiate, enter into, or, if applicable, contest, prosecute or defend, settlements and compromises of, and demand arbitration and comply with orders of courts and awards of arbitrators with respect to, such claims, resolve any such claims, take any actions in connection with the resolution of any dispute relating hereto or to the transactions contemplated hereby by arbitration, settlement or otherwise, and take or forego any or all actions permitted or required of any Company Stockholder or necessary in the judgment of the Securityholders' Representative for the accomplishment of the foregoing and all of the other terms, conditions and limitations of this Agreement, (v) consult with legal counsel, independent public accountants and other experts selected by it, solely at the cost and expense of the Company Stockholders, (vi) consent or agree to any amendment to this Agreement or to waive any terms and conditions of this Agreement providing rights or benefits to the Company Stockholders (other than with respect to the payment of the Merger Shares) in accordance with the terms of this Agreement and in the manner provided herein and required by law, and (vii) take all actions necessary or appropriate in the judgment of the Securityholders' Representative for the accomplishment of the foregoing, in each case without having to seek or obtain the consent of any person under any circumstance. The Company Stockholders shall be bound by all actions taken and documents executed by the Securityholders' Representative in connection with this Agreement.

(c) The Securityholders' Representative shall not be liable to any Company Stockholders for any act done or omitted hereunder as the Securityholders' Representative while acting in good faith (and any act done or omitted pursuant to the advice of counsel shall be conclusive evidence of such good faith) and without gross negligence or willful misconduct. The Company Stockholders will indemnify, defend and hold harmless the Securityholders' Representative from and against any and all losses, liabilities, damages, claims, penalties, fines, forfeitures, actions, fees, costs and expenses (including the fees and expenses of counsel and experts and their staffs and all expense of document location, duplication and shipment) (collectively, "***Representative Losses***") arising out of or in connection with the Securityholders' Representative's execution and performance of this Agreement and the agreements ancillary hereto, in each case as such Representative Loss is suffered or incurred; provided, that in the event that any such Representative Loss is finally adjudicated to have been directly caused by the gross negligence or willful misconduct of the Securityholders' Representative, the Securityholders' Representative will reimburse the Company Stockholders the amount of such indemnified Representative

Loss to the extent attributable to such gross negligence or willful misconduct. If not paid directly to the Securityholders' Representative by the Company Stockholders, any such Representative Losses may be recovered by the Securityholders' Representative from the Escrow Fund at such time as remaining shares or amounts therein would otherwise be distributable to the Company Stockholders; provided, that while this section allows the Securityholders' Representative to be paid from the Escrow Fund, this does not relieve the Company Stockholders from their obligation to promptly pay such Representative Losses as they are suffered or incurred, nor does it prevent the Securityholders' Representative from seeking any remedies available to it at law or otherwise. In no event will the Securityholders' Representative be required to advance its own funds on behalf of the Company Stockholders or otherwise. Any restrictions or limitations on indemnity or liability of the Company Stockholders set forth elsewhere in this Agreement are not intended to be applicable to the indemnities provided to the Securityholders' Representative in this section. The foregoing indemnities will survive the Closing, the resignation or removal of the Securityholders' Representative or the termination of this Agreement.

(d) After the Closing, any notice or communication given or received by, and any decision, action, failure to act within a designated period of time, agreement, consent, settlement, resolution or instruction of, the Securityholders' Representative that is within the scope of the Securityholders' Representative's authority under this Article 8 shall constitute a notice or communication to or by, or a decision, action, failure to act within a designated period of time, agreement, consent, settlement, resolution or instruction of all the Company Stockholders and shall be final, binding and conclusive upon each such the Company Stockholder.

(e) The person serving as the Securityholders' Representative may resign at any time and may be replaced from time to time by the holders of at least majority in interest of the Escrow Shares held in the Escrow Fund upon not less than ten (10) days' prior written notice to the Company. No bond shall be required of the Securityholders' Representative.

Section 8.9 Exclusive Remedy. Parent agrees that from and after the Effective Time, Parent's sole and exclusive remedy with respect to any and all claims relating to breaches of covenants, representations and warranties of this Agreement shall be indemnification pursuant to this Article 8; *provided, however*, that nothing in this provision shall limit any equitable remedy, including injunctions and specific performance, that Parent may have pursuant to this Agreement. In furtherance of the foregoing, Parent (on behalf of itself and each Parent Indemnified Person) hereby waives, to the fullest extent permitted under applicable Laws, and agrees not to assert and to cause each of the other Parent Indemnified Persons not to assert in any Legal Proceeding of any kind, any and all rights, claims and causes of action it may now or hereafter have against any Company Stockholder and any of their respective Affiliates and their respective members, partners, stockholders, officers, directors, employees, agents and other Representatives and the respective Affiliates of each of the foregoing relating to the subject matter of this Agreement, other than claims for indemnification asserted as permitted by and in accordance with the provisions set forth in this Article 8 (including any such rights, claims or causes of action arising under or based upon common law or other Laws).

Section 8.10 Merger Shares Adjustment. All indemnification payments made hereunder (other than pursuant to Section 8.8(c)) will be treated by all parties as adjustments to the value of the Merger Shares.

ARTICLE 9
MISCELLANEOUS PROVISIONS

Section 9.1 Non-Survival of Representations and Warranties. Except as set forth in Section 8.3, the representations and warranties of the Company and Parent contained in this Agreement or any certificate or instrument delivered pursuant to this Agreement shall terminate at the Effective Time, and only the covenants that by their terms survive the Effective Time and this Article 9 shall survive the Effective Time.

Section 9.2 Amendment. This Agreement may be amended with the approval of the respective Boards of Directors of the Company and Parent at any time (whether before or after the Company Stockholder Approval or before or after the Parent Stockholder Approval); provided, however, that after any such adoption and approval of this Agreement by a Party's stockholders, no amendment shall be made which by Law

requires further approval of the stockholders of such Party without the further approval of such stockholders. This Agreement may not be amended except by an instrument in writing signed on behalf of each of the Company and Parent.

Section 9.3 Waiver.

(a) No failure on the part of any Party to exercise any power, right, privilege or remedy under this Agreement, and no delay on the part of any Party in exercising any power, right, privilege or remedy under this Agreement, shall operate as a waiver of such power, right, privilege or remedy, and no single or partial exercise of any such power, right, privilege or remedy shall preclude any other or further exercise thereof or of any other power, right, privilege or remedy.

(b) No Party shall be deemed to have waived any claim arising out of this Agreement, or any power, right, privilege or remedy under this Agreement, unless the waiver of such claim, power, right, privilege or remedy is expressly set forth in a written instrument duly executed and delivered on behalf of such Party, and any such waiver shall not be applicable or have any effect except in the specific instance in which it is given.

Section 9.4 Entire Agreement. This Agreement and the other agreements referred to in this Agreement constitute the entire agreement and supersede all prior agreements and understandings, both written and oral, among or between any of the Parties with respect to the subject matter hereof and thereof; provided, however, that the Confidentiality Agreement shall not be superseded and shall remain in full force and effect in accordance with its terms.

Section 9.5 Counterparts; Exchanges Electronic Transmission. This Agreement may be executed in several counterparts, each of which shall be deemed an original and all of which shall constitute one and the same instrument. The exchange of a fully executed Agreement (in counterparts or otherwise) by all Parties by electronic transmission via ".pdf" shall be sufficient to bind the Parties to the terms and conditions of this Agreement.

Section 9.6 Applicable Law; Jurisdiction. This Agreement shall be governed by, and construed in accordance with, the Laws of the State of Delaware, regardless of the Laws that might otherwise govern under applicable principles of conflicts of Laws. In any action or proceeding between any of the parties arising out of or relating to this Agreement or any of the Contemplated Transactions, each of the parties: (i) irrevocably and unconditionally consents and submits to the exclusive jurisdiction and venue of the Court of Chancery of the State of Delaware or to the extent such court does not have subject matter jurisdiction, the Superior Court of the State of Delaware or the United States District Court for the District of Delaware, (ii) agrees that all claims in respect of such action or proceeding shall be heard and determined exclusively in accordance with clause (i) of this Section 9.6, (iii) waives any objection to laying venue in any such action or proceeding in such courts, (iv) waives any objection that such courts are an inconvenient forum or do not have jurisdiction over any party, and (v) agrees that service of process upon such party in any such action or proceeding shall be effective if notice is given in accordance with Section 9.9 of this Agreement.

Section 9.7 Attorneys' Fees. In any action at Law or suit in equity to enforce this Agreement or the rights of any of the parties under this Agreement, the prevailing Party in such action or suit shall be entitled to receive a reasonable sum for its attorneys' fees and all other reasonable costs and expenses incurred in such action or suit.

Section 9.8 Assignability. This Agreement shall be binding upon, and shall be enforceable by and inure solely to the benefit of, the parties hereto and their respective successors and assigns; provided, however, that neither this Agreement nor any of a Party's rights or obligations hereunder may be assigned or delegated by such Party without the prior written consent of the other Party, and any attempted assignment or delegation of this Agreement or any of such rights or obligations by such Party without the other Party's prior written consent shall be void and of no effect. Nothing in this Agreement, express or implied, is intended to or shall confer upon any Person (other than: (a) the parties hereto, and (b) the directors and officers of the Company referred to in Section 5.5(a) to the extent of their respective rights pursuant to Section 5.5) any right, benefit or remedy of any nature whatsoever under or by reason of this Agreement.

Section 9.9 Notices. Any notice or other communication required or permitted to be delivered to any Party under this Agreement shall be in writing and shall be deemed properly delivered, given and received when delivered by hand, by registered mail, by courier or express delivery service or by facsimile to the address or facsimile telephone number set forth beneath the name of such Party below (or to such other address or facsimile telephone number as such Party shall have specified in a written notice given to the other parties hereto):

if to Parent, Merger Sub Corp or Merger Sub LLC, prior to the Effective Time:

PharmAthene, Inc.
One Park Place, Suite 450
Annapolis, Maryland 21401
Attention: John Gill
Email: john.gill@pharmathene.com
Telephone: (410) 269-2504

with a copy to:

Dentons US LLP
1221 Avenue of the Americas
New York, NY 10020-1089
Email: jeffrey.baumel@dentons.com
ilan.katz@dentons.com
Attention: Jeffrey A. Baumel, Esq.
Ilan Katz, Esq.

if to Parent, after the Effective Time:

Altimmune, Inc.
19 Firstfield Road, Suite 200
Gaithersburg, MD 20878
Attention: Bill Enright
Email: Enright@altimmune.com
Telephone: (240)-654-1450

with a copy to:

Proskauer Rose LLP
One International Place
Boston, MA 02110
Attention: Ori Solomon
Email: osolomon@proskauer.com
Telephone: (617) 526-9889

and

Dentons US LLP
1221 Avenue of the Americas
New York, NY 10020-1089
Email: jeffrey.baumel@dentons.com
ilan.katz@dentons.com
Attention: Jeffrey A. Baumel, Esq.
Ilan Katz, Esq.

if to the Company:

Altimmune, Inc.
19 Firstfield Road, Suite 200
Gaithersburg, MD 20878
Attention: Bill Enright
Email: Enright@altimmune.com
Telephone: (240)-654-1450

with a copy to:

Proskauer Rose LLP
One International Place
Boston, MA 02110
Attention: Ori Solomon
Email: osolomon@proskauer.com
Telephone: (617) 526-9889

if to the Securityholders' Representative:

Shareholder Representative Services LLC
1614 15th Street, Suite 200
Denver, CO 80202
Attention: Managing Director
Email: deals@srsacquiom.com
Telephone: (303) 648-4085
Facsimile: (303) 623-0294

Section 9.10 Cooperation. Each Party agrees to cooperate fully with the other Party and to execute and deliver such further documents, certificates, agreements and instruments and to take such other actions as may be reasonably requested by the other Party to evidence or reflect the Contemplated Transactions and to carry out the intent and purposes of this Agreement.

Section 9.11 Severability. Any term or provision of this Agreement that is invalid or unenforceable in any situation in any jurisdiction shall not affect the validity or enforceability of the remaining terms and provisions of this Agreement or the validity or enforceability of the offending term or provision in any other situation or in any other jurisdiction. If a final judgment of a court of competent jurisdiction declares that any term or provision of this Agreement is invalid or unenforceable, the Parties agree that the court making such determination shall have the power to limit such term or provision, to delete specific words or phrases or to replace such term or provision with a term or provision that is valid and enforceable and that comes closest to expressing the intention of the invalid or unenforceable term or provision, and this Agreement shall be valid and enforceable as so modified. In the event such court does not exercise the power granted to it in the prior sentence, the Parties agree to replace such invalid or unenforceable term or provision with a valid and enforceable term or provision that will achieve, to the extent possible, the economic, business and other purposes of such invalid or unenforceable term or provision.

Section 9.12 Other Remedies; Specific Performance. Except as otherwise provided herein, any and all remedies herein expressly conferred upon a Party will be deemed cumulative with and not exclusive of any other remedy conferred hereby, or by Law or equity upon such Party, and the exercise by a Party of any one remedy will not preclude the exercise of any other remedy. The Parties agree that irreparable damage would occur in the event that any of the provisions of this Agreement were not performed in accordance with their specific terms or were otherwise breached. It is accordingly agreed that the Parties shall be entitled to seek an injunction or injunctions to prevent breaches of this Agreement and to enforce specifically the terms and provisions hereof in any court of the United States or any state having jurisdiction, this being the addition to any other remedy to which they are entitled at Law or in equity.

Section 9.13 Construction.

(a) For purposes of this Agreement, whenever the context requires: the singular number shall include the plural, and vice versa; the masculine gender shall include the feminine and neuter genders; the feminine gender shall include the masculine and neuter genders, and the neuter gender shall include masculine and feminine genders.

(b) The Parties are each represented by legal counsel and have participated jointly in the negotiation and drafting of this Agreement and the agreements contemplated hereby. In the event an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties, and no presumption or burden of proof shall arise favoring or disfavoring any Party by virtue of the authorship of any provision of this Agreement.

(c) As used in this Agreement, the words "include" and "including," and variations thereof, shall not be deemed to be terms of limitation, but rather shall be deemed to be followed by the words "without limitation." The words, "herein," "hereto," "hereof" and words of similar import refer to this Agreement as a whole and not to any particular Article, Section or paragraph hereof.

(d) Except as otherwise indicated, all references in this Agreement to "Sections," "Exhibits" and "Schedules" are intended to refer to Sections of this Agreement and Exhibits and Schedules to this Agreement, respectively.

(e) The table of contents and bold-faced headings contained in this Agreement are for convenience of reference only, shall not be deemed to be a part of this Agreement and shall not be referred to in connection with the construction or interpretation of this Agreement.

(f) Any reference to any Laws will be deemed also to refer to such Laws and all rules and regulations promulgated thereunder, in each case as amended, modified, codified, replaced or reenacted, in whole or in part.

(g) A reference to any Person in this Agreement or any other agreement or document shall include such Person's predecessors-in-interest, successors and permitted assigns.

(h) Each accounting term used herein that is not specifically defined herein shall have the meaning given to it under GAAP.

Section 9.14 Definitions. As used in this Agreement (except as specifically otherwise defined):

"**Additional Company Financial Statements**" has the meaning set forth in Section 5.1(b).

"**Affiliate**" means with respect to any Person, any other Person controlling, controlled by, or under common control with such Person. As used in this definition, "control" (including, with its correlative meanings, "controlled by" and "under common control with") means the possession, directly or indirectly, of power to direct or cause the direction of the management and policies of a Person whether through the ownership of voting securities, by contract or otherwise.

"**Agreement**" has the meaning set forth in the Preamble.

"**Anticorruption Laws**" means the FCPA and all similar anti-bribery Laws applicable to the Company or the Parent and its Subsidiaries, as applicable.

"**Business Day**" means any day other than (a) a Saturday or Sunday, or (b) a day on which banking and savings and loan institutions are authorized or required by Laws to be closed in the Commonwealth of Massachusetts.

"**Certificates of Merger**" has the meaning set forth in Section 1.3.

"**Certificates**" has the meaning set forth in Section 1.8(b).

"**Claiming Party**" has the meaning set forth in Section 8.7(a).

"**Closing**" has the meaning set forth in Section 1.3.

"**Closing Date**" has the meaning set forth in Section 1.3.

"**Code**" means the Internal Revenue Code of 1986, as amended.

"**Company**" has the meaning set forth in the Preamble.

"**Company Acceptable Confidentiality Agreement**" has the meaning set forth in Section 4.5(a).

"**Company Acquisition Proposal**" has the meaning set forth in Section 4.5(a)(ii).

"**Company Ancillary Lease Documents**" means all subleases, overleases and other ancillary agreements or documents pertaining to the tenancy at each such parcel of the Company Leased Real Property the material breach or invalidity of which has had, or would reasonably be expected to have, a Company Material Adverse Effect.

"**Company Balance Sheet**" has the meaning set forth in Section 2.5(a).

"**Company Board Recommendation**" has the meaning set forth in Section 5.2(a).

"**Company Business**" means the business of the Company as currently conducted.

"**Company Bylaws**" has the meaning set forth in Section 2.1(a).

"**Company Capital Stock**" means the Company Common Stock and the Company Preferred Stock.

"**Company Change of Recommendation**" has the meaning set forth in Section 4.5(a).

"**Company Charter**" has the meaning set forth in Section 2.1(a).

"**Company Common Stock**" means the Class A Common Stock, $0.01 par value per share, of the Company and the Class B Common Stock, $0.01 par value per share, of the Company.

"**Company Contingent Workers**" has the meaning set forth in Section 2.15(b).

"**Company Contract**" means any Contract together with any amendments, waivers or other modifications thereto, to which the Company is a party.

"**Company Copyrights**" has the meaning set forth in Section 2.9(a).

"**Company Disclosure Schedule**" has the meaning set forth in Article 2.

"**Company Employee Program**" has the meaning set forth in Section 2.14(a).

"**Company Financing Agreement**" has the meaning set forth in the Recitals.

"**Company In-Licenses**" has the meaning set forth in Section 2.9(a).

"**Company Intellectual Property**" means all Intellectual Property owned by the Company or used or held for use by the Company in the Company Business. "Company Intellectual Property" includes, without limitation, Company Patents, Company Marks, Company Copyrights and Company Trade Secrets.

"**Company Lease**" means the lease, license, sublease or other occupancy agreements and all amendments, modifications, supplements, and assignments thereto, together with all exhibits, addenda, riders and other documents constituting a part thereof for each parcel of the Company Leased Real Property.

"**Company Leased Real Property**" means the real property leased, subleased or licensed by the Company that is related to or used in connection with the Company Business, and the real property leased, subleased or licensed by the Company as tenant, subtenant, licensee or other similar party, together with, to the extent leased, licensed or owned by the Company, all buildings and other structures, facilities or leasehold improvements, currently or hereafter located thereon.

"**Company Lock-up Agreements**" has the meaning set forth in the Recitals.

"**Company Marks**" has the meaning set forth in Section 2.9(a).

"**Company Material Adverse Effect**" means any change, circumstance, condition, development, effect, event, occurrence, result or state of facts that, individually or when taken together with any other such change,

circumstance, condition, development, effect, event, occurrence, result or state of facts, has or would reasonably be expected to (a) have a material adverse effect on the business, financial condition, assets, liabilities or results of operations of the Company, or (b) prevent or materially delay the ability of Company to consummate the Contemplated Transactions, except that "Company Material Adverse Effect" shall not include any change, circumstance, condition, development, effect, event, occurrence, result or state of facts, directly or indirectly, arising out of or attributable to: (i) changes in general economic or political conditions or the securities market in general (whether as a result of acts of terrorism, war (whether or not declared), armed conflicts or otherwise) to the extent they do not disproportionately affect the Company, (ii) changes in or affecting the industries in which the Company operates to the extent they do not disproportionately affect the Company in any material respect, (iii) changes, effects or circumstances resulting from the announcement or pendency of this Agreement or the consummation of the Contemplated Transactions or compliance with the terms of this Agreement, (iv) any specific action taken at the written request of Parent, Merger Sub Corp or Merger Sub LLC or required by this Agreement, (v) any changes in applicable Laws or accounting rules, (vi) any failure by the Company to meet any projections, forecasts or revenue or earnings projections, (vii) any natural or man-made disaster or acts of God or acts of war or terrorism, or (viii) any reductions, either voluntary or involuntary, in the Company's workforce.

"**Company Material Contract**" has the meaning set forth in Section 2.10.

"**Company Out-Licenses**" has the meaning set forth in Section 2.9(a).

"**Company Owned Real Property**" means the real property in which the Company has any fee title (or equivalent).

"**Company Patents**" has the meaning set forth in Section 2.9(a).

"**Company Permits**" has the meaning set forth in Section 2.12(b).

"**Company Preferred Stock**" means the Series B Convertible Preferred stock, $0.01 par value per share, of the Company.

"**Company Private Placement**" has the meaning set forth in the Recitals.

"**Company Product Candidates**" means (a) NasoVAX, (b) HepTcell, (c) NasoShield, and (d) Oncosyn and Densigen.

"**Company Qualified Bidder**" has the meaning set forth in Section 4.5(a)(i).

"**Company Regulatory Agency**" has the meaning set forth in Section 2.12(b).

"**Company SEC Report**" means the Registration Statement on Form S-1 provided by the Company to Parent (other than any disclosures contained or referenced therein under the captions "Risk Factors," "Forward-Looking Statements," "Quantitative and Qualitative Disclosures About Market Risk" and any other disclosures contained or referenced therein of information, factors or risks that are cautionary, predictive or forward-looking in nature).

"**Company Stock Certificate**" has the meaning set forth in Section 1.7.

"**Company Stock Option Plans**" means the Altimmune, Inc. 2001 Employee Stock Option Plan and the Altimmune, Inc. Non-Employee Stock Option Plan, each as amended from time to time.

"**Company Stock Options**" means options to purchase Company Common Stock issued under any of the Company Stock Option Plans.

"**Company Stockholder Approval**" has the meaning set forth in Section 2.23.

"**Company Stockholders**" means holders of capital stock of the Company immediately prior to the Effective Time.

"**Company Superior Offer**" has the meaning set forth in Section 4.5(a)(ii).

"**Company Trade Secrets**" has the meaning set forth in Section 2.9(k).

"Company Voting Agreements" shall mean the voting and support agreements in favor of Parent, substantially in the form attached hereto as Exhibit D.

"Company Warrants" means the outstanding warrants to purchase Company Capital Stock.

"**Confidentiality Agreement**" means that certain confidential disclosure agreement, dated as of August 5, 2016, by and between the Company and Parent.

"**Contemplated Transactions**" means the transactions proposed under this Agreement, including the Mergers, the Reverse Stock Split, the adoption of the New Equity Incentive Plan, and the Company Private Placement.

"**Contract**" means any loan or credit agreement, bond, debenture, note, mortgage, indenture, lease, supply agreement, license agreement, development agreement or other contract, agreement, arrangement, understanding, obligation, commitment or instrument that is legally binding, whether written or oral.

"**DGCL**" means the Delaware General Corporation Law.

"**Deductible**" has the meaning set forth in Section 8.4(a).

"**Dissenting Shares**" has the meaning set forth in Section 1.9(a).

"**Draft Flu Clinical Development Plan**" has the meaning set forth in Section 5.17.

"**Effective Time**" has the meaning set forth in Section 1.3.

"**Employee Program**" means (A) all employee benefit plans within the meaning of ERISA Section 3(3), including multiple employer welfare arrangements (within the meaning of ERISA Section 3(40)), plans to which more than one unaffiliated employer contributes and employee benefit plans (such as foreign or excess benefit plans) which are not subject to ERISA, and (B) all employment, consulting, salary, equity and equity-based compensation, retention, bonus, incentive, severance, deferred compensation, supplemental income, vacation, profit sharing, executive compensation, change in control, material fringe benefit, vacation, retiree benefit, health or other medical, dental, life, disability or other insurance plan, program, agreement or arrangement and all other written employee benefit plans, agreements, and arrangements not described in (A) above, including without limitation, any arrangement intended to comply with Code Section 120, 125, 127, 129 or 137. In the case of an Employee Program funded through a trust described in Code Section 401(a) or an organization described in Code Section 501(c)(9), or any other funding vehicle, each reference to such Employee Program shall include a reference to such trust, organization or other vehicle.

"**Encumbrance**" means any mortgage, deed of trust, pledge, security interest, attachment, hypothecation, lien (statutory or otherwise), violation, charge, lease, license, option, right of first offer, right of first refusal, encumbrance, servient easement, deed restriction, adverse claim, reversion, reverter, preferential arrangement, restrictive covenant, condition or restriction of any kind or charge of any kind (including any conditional sale or title retention agreement or lease in the nature thereof) or any agreement to file any of the foregoing, any sale of receivables with recourse against either the Company or Parent, as the case may be, or any subsidiary, stockholder or Affiliate thereof, and any filing or agreement to file any financing statement as debtor under the Uniform Commercial Code or any similar statute.

"**Environment**" means soil, surface waters, groundwater, land, stream sediments, surface or subsurface strata and ambient air and biota living in or on such media.

"**Environmental Laws**" means Laws relating to protection of the Environment or the protection of human health as it relates to the Environment, including the federal Comprehensive Environmental Response, Compensation and Liability Act, the Resource Conservation and Recovery Act, the Clean Air Act, the Clean Water Act, the Toxic Substances Control Act, the Endangered Species Act and similar foreign, federal, state and local Laws as in effect on the Closing Date.

"**ERISA**" means the Employee Retirement Income Security Act of 1974, as amended.

"**ERISA Affiliate**" has the meaning ascribed thereto in Section 2.14(j)(i) and Section 3.14(j)(ii), as applicable.

"**Escrow Agent**" means Continental Stock Transfer & Trust Company.

"**Escrow Agreement**" means the Escrow Agreement, dated as of the Closing Date, among Parent, Securityholders' Representative and the Escrow Agent.

"**Escrow Dividends**" has the meaning set forth in Section 8.5(c).

"**Escrow Fund**" has the meaning set forth in Section 8.5(a).

"**Escrow Shares**" means such number of shares of Parent Common Stock that comprise ten percent (10%) of the aggregate Merger Shares to be issued in the Merger.

"**Exchange Agent**" means Continental Stock Transfer and Trust Company.

"**Exchange Fund**" has the meaning set forth in Section 1.8(b).

"**Exchange Act**" means the Securities Exchange Act of 1934, as amended.

"**Exchange Ratio**" means a number, which shall be mutually agreed upon by the Board of Directors of Parent and the Board of Directors of the Company immediately prior to the Effective Time, which will cause the holders of shares of Company Common Stock (including shares issued or issuable from the Company Private Placement), Company Preferred Stock, Company Stock Options (including shares issued or issuable upon exercise of the Company Stock Options) and Company Warrants (including shares issued or issuable upon exercise of the Company Warrants), in the aggregate, in each case outstanding immediately prior to the Effective Time, to own 58.2% of the outstanding equity of Parent immediately following the Effective Time.

"**FDA**" has the meaning set forth in Section 2.12(b).

"**FDCA**" has the meaning set forth in Section 2.12(b).

"**Final Flu Clinical Development Plan**" has the meaning set forth in Section 5.17.

"**Form S-4 Registration Statement**" means the registration statement on Form S-4 to be filed with the SEC by Parent in connection with issuance of Parent Common Stock in the Merger, as said registration statement may be amended prior to the time it is declared effective by the SEC.

"**GAAP**" means generally accepted accounting principles and practices in effect from time to time within the United States applied consistently throughout the period involved.

"**Governmental Authority**" means any U.S. or foreign, federal, state, or local governmental commission, board, body, bureau, or other regulatory authority, agency, including courts and other judicial bodies, or any self-regulatory body or authority, including any instrumentality or entity designed to act for or on behalf of the foregoing.

"**Hazardous Material**" means any pollutant, toxic substance, hazardous waste, hazardous materials, hazardous substances, petroleum or petroleum-containing products as defined in, or listed under, any Environmental Law.

"**Health Care Law**" has the meaning set forth in Section 2.12(c).

"**Indebtedness**" means Liabilities (a) for borrowed money, (b) evidenced by bonds, debentures, notes or similar instruments, (c) upon which interest charges are customarily paid (other than obligations accepted in connection with the purchase of products or services in the Ordinary Course of Business), (d) of others secured by (or which the holder of such Liabilities has an existing right, contingent or otherwise, to be secured by) any Encumbrance or security interest on property owned or acquired by the Person in question whether or not the obligations secured thereby have been assumed, (e) under leases required to be accounted for as capital leases under GAAP, (f) all obligations in respect of outstanding letters of credit, (g) guarantees relating to any such Liabilities.

"**Indemnification Cap**" has the meaning set forth in Section 8.4(b).

"**Indemnification Notice**" has the meaning set forth in Section 8.7(a).

"**Indemnification Notice Period**" has the meaning set forth in Section 8.7(a).

"**Indemnity Period**" has the meaning set forth in Section 8.3.

"**Intellectual Property**" means any and all of the following, as they exist throughout the world: (A) patents, patent applications of any kind, patent rights, inventions, discoveries and invention disclosures (whether or not patented) (collectively, "***Patents***"), (B) rights in registered and unregistered trademarks, service marks, trade names, trade dress, logos, packaging design, slogans and Internet domain names, and registrations and applications for registration of any of the foregoing (collectively, "***Marks***"), (C) copyrights in both published and unpublished works, including without limitation all compilations, databases and computer programs, manuals and other documentation and all copyright registrations and applications, and all derivatives, translations, adaptations and combinations of the above (collectively, "***Copyrights***"), (D) rights in know-how, trade secrets, confidential or proprietary information, research in progress, algorithms, data, designs, processes, formulae, drawings, schematics, blueprints, flow charts, models, strategies, prototypes, techniques, Beta testing procedures and Beta testing results (collectively, "***Trade Secrets***"), (E) any and all other intellectual property rights and/or proprietary rights relating to any of the foregoing, and (F) goodwill, franchises, licenses, permits, consents, approvals, and claims of infringement and misappropriation against third parties.

"**IRS**" means the Internal Revenue Service of the United States.

"**Knowledge of Parent**" means the actual knowledge of the chief executive officer and chief financial officer of Parent, after reasonable inquiry by each such individual of each such individual's direct reports and no other inquiry.

"**Knowledge of the Company**" means the actual knowledge of the chief executive officer and chief financial officer of the Company, after reasonable inquiry by each such individual of each such individual's direct reports and no other inquiry.

"**Labor Laws**" means all Laws regarding labor, employment and employment practices, conditions of employment, occupational safety and health, and wages and hours, including any bargaining or other obligations under the National Labor Relations Act.

"**Law**" or "**Laws**" means any federal, state, local, municipal, foreign (including foreign political subdivisions) or other law, Order, statute, constitution, principle of common law or equity, resolution, ordinance, code, writ, edict, decree, consent, approval, concession, franchise, permit, rule, regulation, judicial or administrative ruling, franchise, license, judgment, injunction, treaty, convention or other governmental certification, authorization or requirement issued, enacted, adopted, promulgated, implemented or otherwise put into effect by or under the authority of any Governmental Authority, and the term "applicable" with respect to such Laws and in the context that refers to one or more Persons means that such Laws apply to such Person or Persons or its or their business, undertaking, property or security and put into effect by or under the authority of a Governmental Authority having jurisdiction over the Person or Persons or its or their business, undertaking, property or security.

"**Legal Proceeding**" means any action, arbitration, cause of action, claim, complaint, criminal prosecution, demand letter, governmental or other examination or investigation, hearing, inquiry, administrative or other proceeding, or notice by any Person alleging potential liability.

"**Liability**" has the meaning set forth in Section 2.11.

"**Losses**" has the meaning set forth in Section 8.1.

"**Merger 1**" has the meaning set forth in the Recitals.

"**Merger 2**" has the meaning set forth in the Recitals.

"**Merger Shares**" has the meaning set forth in Section 1.5.

"**Merger Sub Corp**" has the meaning set forth in the Preamble.

"**Merger Sub LLC**" has the meaning set forth in the Preamble.

"**Mergers**" has the meaning set forth in the Recitals.

"**Multiemployer Plan**" means an employee pension benefit plan or welfare benefit plan described in Section 4001(a)(3) of ERISA.

"**Net Cash**" means, as of any particular time, (a) Parent's cash (excluding any restricted cash), cash equivalents and marketable securities, minus (b) the aggregate amount of any new Liabilities incurred by Parent after the date of this Agreement outside of the Ordinary Course of Business minus (c) the aggregate amount of the Liabilities of Parent set forth on Section 6.3(f) of the Parent Disclosure Schedule.

"**Net Cash Condition**" has the meaning set forth in Section 6.3(f).

"**Net Cash Schedule**" has the meaning set forth in Section 5.4.

"**New Equity Incentive Plan**" means a new equity incentive plan to be adopted by Parent, pursuant to which a number of shares of Parent Common Stock to be mutually agreed to by the Company and Parent are to be reserved for issuance.

"**Notice Period**" has the meaning set forth in Section 4.5(b)(iv).

"**NYSE MKT**" means NYSE MKT LLC.

"**Official**" has the meaning set forth in Section 2.21.

"**Ordinary Course of Business**" means with respect to a Party, the ordinary and usual course of normal day-to-day operations of such Party, consistent with past practice.

"**Order**" means any judgment, order, writ, injunction, ruling, decision or decree of, or any settlement under the jurisdiction of, any Court or Governmental Authority.

"**Parent**" has the meaning set forth in the Preamble.

"**Parent Acceptable Confidentiality Agreement**" has the meaning set forth in Section 4.5(b).

"**Parent Acquisition Proposal**" has the meaning set forth in Section 4.5(b)(ii).

"**Parent Ancillary Lease Documents**" means all subleases, overleases and other ancillary agreements or documents pertaining to the tenancy at each such parcel of the Parent Leased Real Property that materially affect or may materially affect the tenancy at any Parent Leased Real Property.

"**Parent Business**" means the business of Parent and any Subsidiary as currently conducted and currently proposed to be conducted.

"**Parent Bylaws**" means the Restated By-laws of Parent, as amended and in effect on the date hereof.

"**Parent Change of Recommendation**" has the meaning set forth in Section 4.5(b)(iii).

"**Parent Change of Recommendation Notice**" has the meaning set forth in Section 4.5(b)(iv).

"**Parent Charter**" means the Restated Certificate of Incorporation of Parent, as amended and in effect on the date hereof.

"**Parent Common Stock**" means the common stock, par value $0.001 per share, of Parent.

"**Parent Contract**" means any Contract together with any amendments, waivers or other modifications thereto, to which Parent is a party.

"**Parent Copyrights**" has the meaning set forth in Section 3.9(a).

"**Parent Contingent Workers**" has the meaning set forth in Section 3.15(b).

"**Parent Disclosure Schedule**" has the meaning set forth in Article 3.

"**Parent Employee Programs**" has the meaning set forth in Section 3.14(a).

"**Parent Financial Statements**" has the meaning set forth in Section 3.5(c).

"**Parent Indemnified Persons**" has the meaning set forth in Section 8.1.

"**Parent In-Licenses**" has the meaning set forth in Section 3.9(a).

"**Parent Intellectual Property**" means all Intellectual Property owned by Parent or any of its Subsidiaries or used or held for use by Parent or any of its Subsidiaries in the Parent Business. "Parent Intellectual Property" includes, without limitation, Parent Patents, Parent Marks, Parent Copyrights and Parent Trade Secrets.

"**Parent Leased Real Property**" means the real property leased, subleased or licensed by Parent, or any Subsidiary thereof, that is related to or used in connection with the Parent Business, and the real property leased, subleased or licensed by Parent or any Subsidiary thereof, in each case, as tenant, subtenant, licensee or other similar party, together with, to the extent leased, licensed or owned by Parent or any Subsidiary thereof, all buildings and other structures, facilities or leasehold improvements, currently or hereafter located thereon.

"**Parent Leases**" means the lease, license, sublease or other occupancy agreements and all amendments, modifications, supplements, and assignments thereto, together with all exhibits, addenda, riders and other documents constituting a part thereof for each parcel of Parent Leased Real Property.

"**Parent Lock-up Agreements**" has the meaning set forth in the Recitals.

"**Parent Marks**" has the meaning set forth in Section 3.9(a).

"**Parent Material Adverse Effect**" means any change, circumstance, condition, development, effect, event, occurrence, result or state of facts that, individually or when taken together with any other such change, circumstance, condition, development, effect, event, occurrence, result or state of facts, has or would reasonably be expected to (a) have a material adverse effect on the business, financial condition, assets, liabilities or results of operations of Parent and its Subsidiaries, taken as a whole, or (b) prevent or materially delay the ability of Parent, Merger Sub Corp and Merger Sub LLC to consummate the Contemplated Transactions, except that "Parent Material Adverse Effect" shall not include any change, circumstance, condition, development, effect, event, occurrence, result or state of facts, directly or indirectly, arising out of or attributable to: (i) changes in general economic or political conditions or the securities market in general (whether as a result of acts of terrorism, war (whether or not declared), armed conflicts or otherwise) to the extent they do not disproportionately affect Parent and its Subsidiaries, taken as a whole, (ii) changes in or affecting the industries in which Parent operates to the extent they do not disproportionately affect Parent and its Subsidiaries, taken as a whole, in any material respect, (iii) changes, effects or circumstances resulting from the announcement or pendency of this Agreement or the consummation of the Contemplated Transactions or compliance with the terms of this Agreement, (iv) any specific action taken at the written request of the Company or required by this Agreement, (v) any reductions, either voluntary or involuntary, in Parent's workforce, (vi) any changes in applicable Laws or accounting rules, (vii) any natural or man-made disaster or acts of God or acts of war or terrorism, or (viii) any failure by Parent to meet any projections, forecasts or revenue or earnings projections.

"**Parent Material Contract**" has the meaning set forth in Section 3.10.

"**Parent Out-Licenses**" has the meaning set forth in Section 3.9(a).

"**Parent Owned Real Property**" means the real property in which Parent or any of its Subsidiaries has any fee title (or equivalent).

"**Parent Patents**" has the meaning set forth in Section 3.9(a).

"**Parent Permits**" has the meaning set forth in Section 3.12(b).

"**Parent Preferred Stock**" means the preferred stock, par value $0.001 per share, of Parent.

"**Parent Product Candidates**" means SparVax-L.

"**Parent Qualified Bidder**" has the meaning set forth in Section 4.5(b)(i).

"**Parent Recommendation**" has the meaning set forth in Section 5.2(b).

"**Parent Regulatory Agency**" has the meaning set forth in Section 3.12(b).

"**Parent Restricted Stock Award**" or "**Parent Restricted Stock Awards**" means awards of restricted stock issued under of the Parent Stock Option Plan.

"**Parent SEC Reports**" has the meaning set forth in Section 3.5(a).

"**Parent Special Dividend**" means the dividend approved by the Parent prior to the date of this Agreement, paid on February 3, 2017 to holders of Parent Common Stock.

"**Parent Stock Option Plans**" means Parent's 2007 Long-Term Incentive Compensation Plan, as amended on June 13, 2008.

"**Parent Stock Options**" means options to purchase Parent Common Stock issued under the Parent Stock Option Plan.

"**Parent Stockholder Approval**" has the meaning set forth in Section 3.23.

"**Parent Stockholder Meeting**" has the meaning set forth in Section 5.2(b).

"**Parent Stockholder Proposals**" has the meaning set forth in Section 5.2(b).

"**Parent Stockholders**" means the holders of the capital stock of Parent.

"**Parent Superior Offer**" has the meaning set forth in Section 4.5(b)(ii).

"**Parent Trade Secrets**" has the meaning set forth in Section 3.9(k).

"**Parent Warrants**" means warrants to purchase up to 100,778 shares of Parent Common Stock issued in March 2007, warrants to purchase up to 903,996 shares of Parent Common Stock issued in July 2010 and warrants to purchase up to 46,584 shares of Parent Common Stock issued in March 2012.

"**Party**" or "**Parties**" means Parent, Merger Sub Corp, Merger Sub LLC and the Company.

"**Permit**" means any franchise, authorization, approval, Order, consent, license, certificate, permit, registration, qualification or other right or privilege.

"**Permitted Encumbrances**" means (i) Encumbrances for Taxes or other governmental charges, assessments or levies that are not yet due and payable or being contested in good faith by appropriate proceedings, (ii) statutory landlord's, mechanic's, carrier's, workmen's, repairmen's or other similar Encumbrances arising or incurred in the Ordinary Course of Business, the existence of which does not, and would not reasonably be expected to, materially impair the marketability, value or use and enjoyment of the asset subject to such Encumbrances, and (iii) Encumbrances and other conditions, easements and reservations of rights, including rights of way, for sewers, electric lines, telegraph and telephone lines and other similar purposes, and affecting the fee title to any real property leased by the Company and being transferred to Parent, Merger Sub Corp or Merger Sub LLC at Closing which are of record as of the date of this Agreement and the existence of which does not, and would not reasonably be expected to, materially impair use and enjoyment of such real property, and (iv) with respect to Leased Real Property only, Encumbrances (including Indebtedness) encumbering the fee title interested in any Leased Real Property which are not attributable to the Company. Notwithstanding the foregoing, any Encumbrances for Indebtedness of the Company as of the Closing will not be a Permitted Encumbrance.

"**Person**" means any individual, corporation, firm, partnership, joint venture, association, trust, company, Governmental Authority, syndicate, body corporate, unincorporated organization, or other legal entity, or any governmental agency or political subdivision thereof.

"**PHSA**" has the meaning set forth in Section 2.12(b).

"**Post-Closing Private Placement**" has the meaning set forth in the Recitals.

"**Pre-Closing Period**" has the meaning set forth in Section 4.1.

"**Pro Rata Share**" means a percentage equal to (i) the Merger Shares issuable to such Company Stockholder divided by (ii) the aggregate number of Merger Shares to be issued to all Company Stockholders.

"**Proxy Statement**" means the letter to stockholders of Parent, notice of meeting with respect to the Parent Stockholder Meeting, proxy statement/prospectus, forms of proxy and any other proxy solicitation materials to be filed with the SEC and distributed to stockholders of Parent in connection with the Merger.

"**Release**" means any releasing, disposing, discharging, injecting, spilling, leaking, pumping, dumping, emitting, escaping or emptying of a Hazardous Material into the Environment.

"**Representatives**" means the directors, officers, employees, Affiliates, investment bankers, financial advisors, attorneys, accountants, brokers, finders or representatives of the Company, Parent, Merger Sub Corp, Merger Sub LLC or any of their respective Subsidiaries, as the case may be.

"**Reverse Stock Split**" has the meaning set forth in Section 5.16.

"**S-4 Effective Date**" has the meaning set forth in Section 5.1(a).

"**Sarbanes-Oxley Act**" means the Sarbanes-Oxley Act of 2002.

"**SEC**" means the Securities and Exchange Commission.

"**Section 5.13 Director**" has the meaning set forth in Section 5.13(c).

"**Section 8.6 Action**" has the meaning set forth in Section 8.6.

"**Securities Act**" means the Securities Act of 1933, as amended.

"**Securityholders' Representative**" has the meaning set forth in Section 8.8(b).

"**Subsidiary**" or "**Subsidiaries**" means, when used with reference to a party, any corporation or other organization, whether incorporated or unincorporated, of which such party or any other subsidiary of such party is a general partner (excluding partnerships the general partnership interests of which held by such party or any subsidiary of such party do not have a majority of the voting interests in such partnership) or serves in a similar capacity, or, with respect to such corporation or other organization, at least 50% of the securities or other interests having by their terms ordinary voting power to elect a majority of the board of directors or others performing similar functions is directly or indirectly owned or controlled by such party or by any one or more of its subsidiaries, or by such party and one or more of its subsidiaries.

"**Surviving Entity**" has the meaning set forth in Section 1.1.

"**Tax**" or "**Taxes**" means any and all taxes, customs, duties, tariffs, deficiencies, assessments, levies, or other like governmental charges, including taxes based upon or measured by income, gross receipts, excise, real or personal property, ad valorem, value added, estimated, alternative minimum, stamp, sales, withholding, social security (or similar), unemployment, disability, occupation, premium, windfall, use, service, service use, license, net worth, payroll, pension, franchise, environmental (including taxes under Section 59A of the Code), severance, transfer, capital stock and recording taxes and charges, imposed by the IRS or any other taxing authority (whether U.S. or non-U.S. including any state, county, local, or non-U.S. government or any subdivision or taxing agency thereof (including a United States possession)), whether computed on a separate, consolidated, unitary, combined, or any other basis, and such term shall include any interest, fines, penalties, or additional amounts attributable to, or imposed upon, or with respect to, any such amounts, whether disputed or not.

"**Taxing Authority**" means any Governmental Authority responsible for the imposition of any Tax.

"**Tax Return**" means any report, return, document, declaration, election, schedule or other information or filing, or any amendment thereto, required to be supplied to any taxing authority or jurisdiction (foreign or domestic) with respect to Taxes, including information returns and any documents with respect to or accompanying payments of estimated Taxes or requests for the extension of time in which to file any such report, return, document, declaration, or other information.

"**Third Party Claim**" has the meaning set forth in Section 8.7(a).

"**Third Party Claim Notice**" has the meaning set forth in Section 8.7(a).

"**Third Party Intellectual Property**" has the meaning set forth in Section 2.9(f).

"**Voting Agreements**" has the meaning set forth in the Recitals.

"**WARN Act**" has the meaning set forth in Section 2.15(b).

(Signature Page Follows)

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed as of the date first above written.

PHARMATHENE, INC.
By: /s/ John M. Gill
Name: John M. Gill
Title: President and Chief Executive Officer

MUSTANG MERGER SUB CORP I INC.
By: /s/ John M. Gill
Name: John M. Gill
Title: President and Chief Executive Officer

MUSTANG MERGER SUB II LLC
By: /s/ John M. Gill
Name: John M. Gill
Title: President and Chief Executive Officer

ALTIMMUNE, INC.
By: /s/ William Enright
Name: William Enright
Title: Chief Executive Officer

SHAREHOLDER REPRESENTATIVE SERVICES LLC, solely in its capacity as the Securityholders' Representative
By: /s/ W. Paul Koenig
Name: W. Paul Koenig
Title: Managing Director

SIGNATURE PAGE TO MERGER AGREEMENT

AMENDMENT NO. 1

TO

AGREEMENT AND PLAN OF MERGER

This AMENDMENT NO. 1 (this "***Amendment***"), dated as of March 29, 2017, to the Agreement and Plan of Merger (the "***Merger Agreement***"), dated as of January 18, 2017, is made and entered into by and among PharmAthene, Inc., a Delaware corporation ("***Parent***"), Mustang Merger Sub Corp I Inc., a Delaware corporation and a direct wholly owned subsidiary of Parent ("***Merger Sub Corp***"), Mustang Merger Sub II LLC, a Delaware limited liability company and a direct wholly owned subsidiary of Parent ("***Merger Sub LLC***"), Altimmune, Inc., a Delaware corporation (the "***Company***") and Shareholder Representative Services LLC, a Colorado limited liability company, solely in its capacity as the Securityholders' Representative (the "***Representative***"). Parent, Merger Sub Corp, Merger Sub LLC, the Company and the Representative are each sometimes referred to collectively as the "***Parties***."

WHEREAS, the Parties desire to amend certain provisions of the Merger Agreement as described herein; and

WHEREAS, the respective Boards of Directors of the Company and Parent have approved this Amendment.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained in the Merger Agreement and this Amendment, and for other good and valuable consideration, the receipt and adequacy of which are acknowledged, the Parties agree as follows:

SECTION 1 — Definitions. Terms used herein and not defined shall have the meanings ascribed thereto in the Merger Agreement.

SECTION 2 — Amendment.

(a) Section 1.4(a) of the Merger Agreement is hereby amended and restated in its entirety to read as follows:

> "At the Effective Time, the certificate of incorporation of Parent shall be the certificate of incorporation of Parent immediately prior to the Effective Time, until thereafter amended as provided by the DGCL and such certificate of incorporation; provided, however, that after the Effective Time, Parent shall file an amendment to its certificate of incorporation to change the name of Parent to "Altimmune, Inc."

(b) Exhibit C to the Merger Agreement is hereby amended and restated in its entirety to read as Exhibit A attached hereto.

SECTION 3 — Effect of Amendment. This Amendment shall not constitute an amendment or waiver of any provision of the Merger Agreement not expressly amended or waived herein and shall not be construed as an amendment, waiver or consent to any action that would require an amendment, waiver or consent except as expressly stated herein. The Merger Agreement, as amended by this Amendment, is and shall continue to be in full force and effect and is in all respects ratified and confirmed hereby.

SECTION 4 — Counterparts. This Amendment may be executed in several counterparts, each of which shall be deemed an original and all of which shall constitute one and the same instrument. The exchange of a fully executed Amendment (in counterparts or otherwise) by all Parties by electronic transmission via ".pdf" shall be sufficient to bind the Parties to the terms and conditions of this Amendment.

SECTION 5 — Governing Law. This Amendment shall be governed by, and construed in accordance with, the Laws of the State of Delaware, regardless of the Laws that might otherwise govern under applicable principles of conflicts of Laws.

SECTION 6 — Other Miscellaneous Terms. The provisions of Article 9 (*Miscellaneous*) of the Merger Agreement shall apply *mutatis mutandis* to this Amendment, and to the Merger Agreement as modified by this Amendment, taken together as a single agreement, reflecting the terms as modified hereby.

(*Signature Page Follows*)

IN WITNESS WHEREOF, each of the Parties has caused this Amendment to be duly executed as of the date first written above.

PHARMATHENE, INC.

By:/s/ John Gill
Name: John Gill
Title: Chief Executive Officer

MUSTANG MERGER SUB CORP I INC.

By:/s/ John Gill
Name: John Gill
Title: Chief Executive Officer

MUSTANG MERGER SUB II LLC

By:/s/ John Gill
Name: John Gill
Title: Chief Executive Officer

ALTIMMUNE, INC.

By:/s/ William Enright
Name: William Enright
Title: Chief Executive Officer

SHAREHOLDER REPRESENTATIVE SERVICES LLC, solely in its capacity as the Securityholders' Representative

By:/s/ W. Paul Koenig
Name: W. Paul Koenig
Title: Managing Director

EXHIBIT A

AMENDED AND RESTATED BYLAWS

OF

ALTIMMUNE, INC.

SECTION 1 — STOCKHOLDERS

Section 1.1. Annual Meeting.

An annual meeting of the stockholders of Altimmune, Inc., a Delaware corporation (the "Corporation") for the election of directors to succeed those whose term expire and for the transaction of such other business as may properly come before the meeting shall be held at the place, if any, within or without the State of Delaware, on the date and at the time that the Board of Directors of the Corporation (the "Board of Directors") shall each year fix. Unless stated otherwise in the notice of the annual meeting of the stockholders of the Corporation, such annual meeting shall be at the principal office of the Corporation.

Section 1.2. Advance Notice of Proposals of Business and Nominations.

(a) Business at Annual Meetings of Stockholders

(1) Proposals for business (other than nominations of persons for election to the Board of Directors, which must be made in compliance with and are governed exclusively by Section 1.2(b) hereto) to be transacted by the stockholders at an annual meeting of stockholders may be made (i) pursuant to the Corporation's notice with respect to such meeting (or any supplement thereto), (ii) by or at the direction of the Board of Directors or any committee thereof or (iii) by any stockholder of the Corporation who (A) was a stockholder of record at the time of the giving of such stockholder's notice as contemplated in this Section 1.2(a), (B) is entitled to vote at such meeting and (C) has given notice to the Corporation in full compliance with the notice procedures set forth in this Section 1.2(a). Subject to Section 1.2(i) and except as otherwise required by law, clause (iii) of this Section 1.2(a)(1) shall be the exclusive means for a stockholder to propose business (other than nominations of persons for election to the Board of Directors, which must be made in compliance with and are governed exclusively by Section 1.2(b) hereto) before an annual meeting of stockholders.

(2) Subject to Section 1.2(i) and except as otherwise required by law, for proposals (other than nominations of persons for election to the Board of Directors, which must be made in compliance with and are governed exclusively by Section 1.2(b) hereto) to be properly brought before an annual meeting by a stockholder pursuant to clause (iii) of Section 1.2(a)(1), (i) the stockholder must have given timely notice thereof in writing to the Secretary of the Corporation (the "Secretary") with the information contemplated by Section 1.2(a)(3), and (ii) the business must be a proper matter for stockholder action under the General Corporation Law of the State of Delaware (the "DGCL"). The notice requirements of this Section 1.2(a) shall be deemed satisfied by a stockholder with respect to business other than a nomination (which shall be governed exclusively by Section 1.2(b) hereto) if the stockholder has notified the Corporation of his, her or its intention to present a proposal at an annual meeting in compliance with applicable rules and regulations promulgated under the Securities Exchange Act of 1934 (as amended from time to time, the "Act") and such stockholder's proposal has been included in a proxy statement prepared by the Corporation to solicit proxies for such annual meeting.

(3) To be timely for purposes of Section 1.2(a), a stockholder's notice must be delivered to the Secretary at the principal executive offices of the Corporation on a date not later than the close of business on the 90th day, nor earlier than the close of business on the 120th day, prior to the anniversary date of the prior year's annual meeting or, if there was no annual meeting in the prior year or if the date of the current year's annual meeting is more than 30 days before or after the anniversary date of the prior year's annual meeting, on or before 10 days after the day on which the date of the current year's annual meeting is first disclosed in a public

announcement (as defined in Section 1.2(d)). In no event shall any adjournment or postponement of an annual meeting or the announcement thereof commence a new time period for the delivery of such notice. Such notice from a stockholder must state (i) as to each proposal that the stockholder seeks to bring before the meeting, a brief description of such proposal, the reasons for making the proposal at the meeting, the text of the proposal or business (including the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend these bylaws of the Corporation (these "Bylaws"), the language of the proposed amendment) and any material interest that the stockholder has in the proposal; and (ii) (A) the name and address of the stockholder giving the notice on whose behalf the proposal is made, (B) the class (and, if applicable, series) and number of shares of stock of the Corporation that are, directly or indirectly, owned beneficially or of record by the stockholder, (C) any option, warrant, convertible security, stock appreciation right or similar right with an exercise or conversion privilege or a settlement payment or mechanism at a price related to any class (or, if applicable, series) of shares of stock of the Corporation or with a value derived in whole or in part from the value of any class (or, if applicable, series) of shares of stock of the Corporation, whether or not such instrument or right shall be subject to settlement in the underlying class or series of capital stock of the Corporation or otherwise (each, a "Derivative Instrument") directly or indirectly owned beneficially or of record by such stockholder and any other direct or indirect opportunity to profit or share in any profit derived from any increase or decrease in the value of shares of stock of the Corporation of the stockholder, (D) any proxy, contract, arrangement, understanding or relationship pursuant to which such stockholder has a right to vote any securities of the Corporation, (E) any proportionate interest in shares of the Corporation or Derivative Instruments held, directly or indirectly, by a general or limited partnership in which such stockholder is a general partner or beneficially owns, directly or indirectly, an interest in a general partner, (F) any performance-related fees (other than an asset-based fee) that such stockholder is entitled to based on any increase or decrease in the value of the shares of stock of the Corporation or Derivative Instruments, (G) any other information relating to such stockholder, if any, required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies for, as applicable, the proposal and/or for the election of directors in an election contest pursuant to and in accordance with Section 14(a) of the Act and the rules and regulations of the Securities and Exchange Commission thereunder, (H) a representation that the stockholder is a holder of record of the Corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to propose such business, (I) a certification as to whether or not the stockholder has complied with all applicable federal, state and other legal requirements in connection with the stockholder's acquisition of shares of capital stock or other securities of the Corporation and the stockholder's acts or omissions as a stockholder (or beneficial owner of securities) of the Corporation, and (J) whether the stockholder intends to deliver a proxy statement and form of proxy to holders of at least the percentage of the Corporation's voting shares required under applicable law to carry the proposal. The information required to be included in a notice pursuant to this Section 1.2(a)(3) shall be provided as of the date of such notice. The information required to be included in a notice pursuant to this Section 1.2(a)(3) shall not include any ordinary course business activities of any broker, dealer, commercial bank, trust company or other nominee who is directed to prepare and submit the notice required by this Section 1.2(a)(3) on behalf of a beneficial owner of the shares held of record by such broker, dealer, commercial bank, trust company or other nominee and who is not otherwise affiliated or associated with such beneficial owner.

(4) Notwithstanding anything in these Bylaws to the contrary, no business (other than nominations of persons for election to the Board of Directors, which must be made in compliance with and are governed exclusively by Section 1(b) hereto) shall be conducted at an annual meeting except in accordance with the procedures set forth in this Section 1.2(a).

(b) Nominations at Annual Meetings of Stockholders

(1) Nominations of persons for election to the Board of Directors at an annual meeting of stockholders may be made (i) pursuant to the Corporation's notice with respect to such meeting (or any supplement thereto), (ii) by or at the direction of the Board of Directors or any committee thereof or (iii) by any stockholder of the Corporation who (A) was a stockholder of record at the time of the giving of such stockholder's notice contemplated in Section 1.2(b), (B) is entitled to vote at such meeting and (C) has given notice to the Corporation in full compliance with the notice procedures set forth in this Section 1.2(b). Subject to Section 1.2(i) and except as otherwise required by law, clause (iii) of this Section 1.2(b)(1) shall be the exclusive means for a stockholder to make nominations of persons for election to the Board of Directors before an annual meeting of stockholders.

(2) Subject to Section 1.2(i) and except as otherwise required by law, for nominations to be properly brought before an annual meeting by a stockholder pursuant to clause (iii) of this Section 1.2(b)(2), the stockholder must have given timely notice thereof in writing to the Secretary with the information contemplated by Section 1.2(b)(3).

(3) To be timely for purposes of Section 1.2(b), a stockholder's notice must be delivered to the Secretary at the principal executive offices of the Corporation on a date not later than the close of business on the 90th day, nor earlier than the close of business on the 120th day, prior to the anniversary date of the prior year's annual meeting or, if there was no annual meeting in the prior year or if the date of the current year's annual meeting is more than 30 days before or after the anniversary date of the prior year's annual meeting, on or before 10 days after the day on which the date of the current year's annual meeting is first disclosed in a public announcement (as defined in Section 1.2(d)). In no event shall any adjournment or postponement of an annual meeting or the announcement thereof commence a new time period for the delivery of such notice. Such notice from a stockholder must state (i) as to each nominee that the stockholder proposes for election or reelection as a director, (A) all information relating to such nominee that would be required to be disclosed in solicitations of proxies for the election of such nominee as a director pursuant to Regulation 14A under the Act and such nominee's written consent to serve as a director if elected, and (B) a description of all direct and indirect compensation and other material monetary arrangements, agreements or understandings during the past three years, and any other material relationship, if any, between or concerning such stockholder, or any of their respective affiliates or associates, on the one hand, and the proposed nominee or any of his or her affiliates or associates, on the other hand; and (ii) (A) the name and address of the stockholder giving the notice on whose behalf the nomination is made, (B) the class (and, if applicable, series) and number of shares of stock of the Corporation that are, directly or indirectly, owned beneficially or of record by the stockholder, (C) any option, warrant, convertible security, stock appreciation right or similar right with an exercise or conversion privilege or a settlement payment or mechanism at a price related to any class (or, if applicable, series) of shares of stock of the Corporation or a Derivative Instrument directly or indirectly owned beneficially or of record by such stockholder and any other direct or indirect opportunity to profit or share in any profit derived from any increase or decrease in the value of shares of stock of the Corporation of the stockholder, (D) any proxy, contract, arrangement, understanding or relationship pursuant to which such stockholder has a right to vote any securities of the Corporation, (E) any proportionate interest in shares of the Corporation or Derivative Instruments held, directly or indirectly, by a general or limited partnership in which such stockholder is a general partner or beneficially owns, directly or indirectly, an interest in a general partner, (F) any performance-related fees (other than an asset-based fee) that such stockholder is entitled to based on any increase or decrease in the value of the shares of stock of the Corporation or Derivative Instruments, (G) any other information relating to such stockholder, if any, required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies for the election of directors in an election contest pursuant to and in accordance with Section 14(a) of the Act and

the rules and regulations of the Securities and Exchange Commission thereunder, (H) a representation that the stockholder is a holder of record of the Corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to propose such nomination, (I) a certification as to whether or not the stockholder has complied with all applicable federal, state and other legal requirements in connection with the stockholder's acquisition of shares of capital stock or other securities of the Corporation and the stockholder's acts or omissions as a stockholder (or beneficial owner of securities) of the Corporation, and (J) whether the stockholder intends to deliver a proxy statement and form of proxy to holders of a sufficient number of holders of the Corporation's voting shares reasonably believed by such stockholder to be sufficient to elect such nominee or nominees or otherwise to solicit proxies or votes from stockholders in support of such nomination. The Corporation may require any proposed nominee to furnish such other information as may be reasonably requested by the Corporation to determine the eligibility of the proposed nominee to serve as an independent director of the Corporation or that could be material to a reasonable stockholder's understanding of the independence, or lack thereof, of the nominee. The information required to be included in a notice pursuant to this Section 1.2(b)(3) shall be provided as of the date of such notice. The information required to be included in a notice pursuant to this Section 1.2(b)(3) shall not include any ordinary course business activities of any broker, dealer, commercial bank, trust company or other nominee who is directed to prepare and submit the notice required by this Section 1.2(b)(3) on behalf of a beneficial owner of the shares held of record by such broker, dealer, commercial bank, trust company or other nominee and who is not otherwise affiliated or associated with such beneficial owner.

(c) Subject to the certificate of incorporation of the Corporation (the "Certificate of Incorporation") and applicable law, only persons nominated in accordance with procedures stated in Section 1.2(b) shall be eligible for election as and to serve as members of the Board of Directors and the only other business that shall be conducted at an annual meeting of stockholders is the business that has been brought before the meeting in accordance with the procedures set forth in Section 1.2(a). The chairman of the meeting shall have the power and the duty to determine whether a nomination or any proposal has been made according to the procedures stated in this Section 1.2 and, if any nomination or proposal does not comply with this Section 1.2, unless otherwise required by law, the nomination or proposal shall be disregarded.

(d) For purposes of this Section 1.2, "public announcement" means disclosure in a press release issued by the Corporation and reported by the Dow Jones News Service, Associated Press or a comparable news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the Act.

(e) Notwithstanding the foregoing provisions of this Section 1.2, unless otherwise required by law, if a stockholder (or a qualified representative of such stockholder) does not appear at the annual or special meeting of stockholders of the Corporation to present a nomination or proposed business or does not provide the information required by Section 1.2(a) or 1.2(b), as applicable, including any required supplement thereto pursuant to Section 1.2(g), any such proposed nomination may be disregarded and any such proposed business shall not be transacted, as the case may be, notwithstanding that proxies in respect of such matter(s) may have been received by the Corporation. For purposes of this Section 1.2, to be considered a qualified representative of a stockholder, a person must be a duly authorized officer, manager or partner of such stockholder or must be authorized by a writing executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the meeting of stockholders and such person must produce such writing or electronic transmission, or a reliable reproduction of the writing or electronic transmission, at the meeting of stockholders.

(f) Only such business shall be conducted at a special meeting of stockholders as shall have been brought before the meeting pursuant to the Corporation's notice of meeting. Nominations of persons for election to the Board of Directors may be made at a special meeting of stockholders at which directors are to be elected pursuant to the Corporation's notice of meeting. Such nominations may be

made (1) by or at the direction of the Board of Directors or any committee thereof or (2) provided that the Board of Directors has determined that directors shall be elected at such meeting, by any stockholder of the Corporation who (A) is a stockholder of record at the time the notice provided for in this Section 1.2(f) is delivered to the Secretary, (B) is entitled to vote at the meeting, and (C) gives notice to the Corporation in full compliance with the notice procedures set forth in Section 1.2(b). In the event the Corporation calls a special meeting of stockholders for the purpose of electing one or more directors to the Board of Directors, any such stockholder entitled to vote in such election of directors may nominate a person or persons (as the case may be) for election to such position(s) as specified in the Corporation's notice of meeting, if the stockholder's notice required by this Section 1.2(f) shall be delivered to the Secretary at the principal executive offices of the Corporation not earlier than the close of business on the 120th day prior to such special meeting and not later than the close of business on the later of the 90th day prior to such special meeting or the tenth 10th day following the day on which public announcement (as defined in Section 1.2(d)) is first made of the date of the special meeting and of the nominees proposed by the Board of Directors to be elected at such meeting. In no event shall the public announcement (as defined in Section 1.2(d)) of an adjournment or postponement of a special meeting commence a new time period (or extend any time period) for the giving of a stockholder's notice as described above.

(g) Any stockholder who submits a notice of proposal for business or nomination for election pursuant to this Section 1.2 is required to update and supplement the information disclosed in such notice, if necessary, so that the information provided or required to be provided in such notice shall be true and correct as of the record date for determining the stockholders entitled to notice of the meeting of stockholders and as of the date that is 10 business days prior to such meeting of the stockholders or any adjournment or postponement thereof, and such update and supplement shall be received by the Secretary at the principal executive offices of the Corporation not later than the close of business on the fifth business day after the record date for the meeting of stockholders (in the case of the update and supplement required to be made as of the record date), and not later than the close of business on the eighth business day prior to the date for the meeting of stockholders or any adjournment or postponement thereof (in the case of the update and supplement required to be made as of 10 business days prior to the meeting of stockholders or any adjournment or postponement thereof).

(h) To be qualified to be a nominee for election or re-election as a director of the Corporation, a person must deliver (in the case of a person nominated by a stockholder in accordance with Section 1.2(b) or 1.2(f), in accordance with the time periods prescribed for delivery of notice under such sections) to the Secretary at the principal executive offices of the Corporation a written questionnaire with respect to the background and qualification of such person and the background of any other person or entity on whose behalf the nomination is being made (which questionnaire shall be provided by the Secretary upon written request) and a written representation and agreement (in the form provided by the Secretary upon written request) that such person (i) is not and will not become a party to (A) any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity as to how such person, if elected as a director of the Corporation, will act or vote on any issue or question (a "Voting Commitment") that has not been disclosed to the Corporation or (B) any Voting Commitment that could limit or interfere with such person's ability to comply, if elected as a director of the Corporation, with such person's fiduciary duties under applicable law, (ii) is not and will not become a party to any agreement, arrangement or understanding with any person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director that has not been disclosed therein and (iii) would be in compliance, and if elected as a director of the Corporation will comply, with all applicable publicly disclosed corporate governance, conflict of interest, confidentiality and stock ownership and trading policies and guidelines of the Corporation. The Corporation may also require any proposed nominee to furnish such other information as may reasonably be required by the Corporation to determine the eligibility of such proposed nominee to serve either as a director of the Corporation or as an independent director of the Corporation under applicable Securities and Exchange Commission and stock exchange rules and

the Corporation's publicly disclosed corporate governance guidelines, or that could be material to a reasonable stockholder's understanding of the qualifications and/or independence, or lack thereof, of such nominee.

(i) Notwithstanding the foregoing provisions of these Bylaws, a stockholder shall also comply with all applicable requirements of the Act and the rules and regulations promulgated thereunder with respect to the matters set forth in these Bylaws; provided, however, that any references in these Bylaws to the Act or the rules and regulations promulgated thereunder are not intended to and shall not limit the requirements applicable to any nomination or other business to be considered pursuant to this Section 1.2.

Section 1.3. Special Meetings; Notice.

(a) General. Special meetings of stockholders may be called at any time for any purpose or purposes by majority vote of the Board of Directors or by the Chief Executive Officer. A special meeting of stockholders called pursuant to this Section 3(a) may be cancelled by the Board of Directors at any prior to the scheduled commencement of the special meeting.

(b) Time and Place of Special Meetings Called by the Board of Directors or by the Chief Executive Officer. Each special meeting called pursuant to Section 3(a) shall be held at such date, time and place either within or without the State of Delaware as may be stated in the notice of the meeting.

(c) Stockholder Requests for Special Meetings.

(1) Special meetings of stockholders (each a "Stockholder Requested Special Meeting") shall be called by the Secretary upon the written request of a stockholder, or a group of stockholders formed for the purpose of making such request, that beneficially own 20% or more of the outstanding common stock (the "Threshold Percentage") as of the date of submission of the written request. Compliance by the requesting stockholder or group with the requirements of this Section 1.3(c) and related provisions of these By-Laws shall be determined by the Board of Directors, which determination shall be conclusive and binding on the stockholder or stockholders making such request for a Stockholder Requested Special Meeting. Except in accordance with this Section 1.3, stockholders shall not be permitted to propose business to be brought before a special meeting of stockholders.

(2) A request for a Stockholder Requested Special Meeting must be in writing and signed by the beneficial owners of the Threshold Percentage of the common stock (or their duly authorized agents) and be delivered to the Secretary at the principal executive offices of the Company by registered mail, return receipt requested. Such request shall (A) set forth a statement of the specific purpose or purposes of the Stockholder Requested Special Meeting and the matters proposed to be acted on at such Stockholder Requested Special Meeting (including the text of any resolution or resolutions proposed for consideration), (B) bear the date of signature of each stockholder (or duly authorized agent) signing the request, (C) set forth (1) the name and address, as they appear in the Corporation's books, of each stockholder signing such request (or on whose behalf the request is signed), (2) the number of shares of common stock as to which such stockholder has beneficial ownership and (3) include evidence of the fact and duration of such stockholder's beneficial ownership of such stock consistent with that which is required under Regulation 14A under the Act, (D) set forth all information relating to each such stockholder that is required to be disclosed in solicitations of proxies for election of directors in an election contest (even if an election contest is not involved), or is otherwise required, in each case, pursuant to Regulation 14A under the Act, (E) describe any material interest of each such stockholder in the specific purpose or purposes of the meeting, (F) describe any agreement, arrangement or understanding between or among the stockholders requesting the Stockholder Requested Special Meeting or between or among the stockholder or stockholders requesting the Stockholder Requested Special Meeting and any other person or entity in connection with the request or the matters proposed to be acted on at the Stockholder Requested Special Meeting and (G) include an acknowledgment by each stockholder and any

duly authorized agent that any disposition of shares of common stock as to which such stockholder has beneficial ownership as of the date of delivery of the request and prior to the record date for the proposed Stockholder Requested Special Meeting requested by such stockholder shall constitute a revocation of such request with respect to such shares. In addition, the stockholder and any duly authorized agent shall promptly provide any other information reasonably requested by the Corporation to allow it to satisfy its obligations under applicable law. Any requesting stockholder may revoke a request for a special meeting at any time prior to the commencement of the Stockholder Requested Special Meeting by written revocation delivered to the Secretary at the principal executive offices of the Corporation. If, following such revocation at any time before the commencement of the Stockholder Requested Special Meeting, the remaining requests are from stockholders holding in the aggregate less than the Threshold Percentage, the Board of Directors, in its discretion, may cancel the Stockholder Requested Special Meeting.

(3) Notwithstanding the foregoing, the Secretary shall not be required to call a Stockholder Requested Special Meeting if (A) the request for such special meeting does not comply with this Section 1.3(c), (B) the Board of Directors or the Chief Executive Officer has called or calls an annual or special meeting of stockholders to be held not later than ninety (90) days after the date on which a valid request has been delivered to the Secretary (the "Delivery Date"), (C) the request is received by the Secretary during the period commencing ninety (90) days prior to the first anniversary of the date of the immediately preceding annual meeting and ending on the date of the next annual meeting, (D) the request contains an identical or substantially similar item (a "Similar Item") to an item that was presented at any meeting of stockholders held within one hundred and twenty (120) days prior to the Delivery Date (and, for purposes of this clause (D) the election of directors shall be deemed a "Similar Item" with respect to all items of business involving the election or removal of directors), (E) the request relates to an item of business that is not a proper subject for action by the stockholders of the Company under applicable law or (F) the request was made in a manner that involved a violation of Regulation 14A under the Act or other applicable law.

(4) Any Stockholder Requested Special Meeting shall be held at such date, time and place within or without the state of Delaware as may be fixed by the Board of Directors; provided, that the date of any Stockholder Requested Special Meeting shall be not more than sixty (60) days after the record date for such meeting, which shall be fixed in accordance with these By-Laws. Business transacted at any Stockholder Requested Special Meeting shall be limited to the purpose(s) stated in the request; provided, however, that nothing herein shall prohibit the Company from submitting matters to a vote of the stockholders at any Stockholder Requested Special Meeting.

Section 1.4. Notice of Meetings.

Notice of the place, date and time of all meetings of stockholders of the Corporation, the record date for determining the stockholders entitled to vote at the meeting (if such date is different from the record date for stockholders entitled to notice of the meeting) and the means of remote communications, if any, by which stockholders and proxy holders may be deemed present and vote at such meeting, and, in the case of all special meetings of stockholders, the purpose or purposes of the meeting, shall be given not less than 10 nor more than 60 days before the date on which such meeting is to be held, to each stockholder entitled to notice of the meeting.

The Corporation may postpone or cancel any previously called annual or special meeting of stockholders of the Corporation by making a public announcement (as defined in Section 1.2(d)) of such postponement or cancellation prior to the meeting. When a previously called annual or special meeting is postponed to another time, date or place, notice of the place, date and time of the postponed meeting, the record date for determining the stockholders entitled to vote at the meeting (if such date is different from the record date for stockholders entitled to notice of the meeting) and the means of remote communications, if any, by which stockholders and proxy holders may be deemed present and vote at such postponed meeting, shall be given in

conformity with this Section 1.4; provided that if such meeting is postponed to a date that is not more than 60 days after the date that the initial notice of the meeting was provided in conformity with this Section 1.4, then the record date shall remain the same as stated in the initial notice.

When a meeting is adjourned to another time or place, notice need not be given of the adjourned meeting if the time and place thereof and the means of remote communication, if any, by which stockholders and proxy holders may be deemed to be present and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken; provided, however, that if the adjournment is for more than 30 days, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting or, if after the adjournment a new record date for stockholders entitled to vote is fixed for the adjourned meeting, the Board of Directors shall fix a new record date for notice of such adjourned meeting in conformity herewith and such notice shall be given to each stockholder of record entitled to vote at such adjourned meeting as of the record date for notice of such adjourned meeting. At any adjourned meeting, any business may be transacted that may have been transacted at the original meeting.

Section 1.5. Quorum.

At any meeting of the stockholders, the holders of shares of stock of the Corporation entitled to cast a majority of the total votes entitled to be cast by the holders of all outstanding shares of capital stock of the Corporation entitled to vote generally in the election of directors ("Voting Stock"), present in person or by proxy, shall constitute a quorum for all purposes, unless or except to the extent that the presence of a larger number is required by applicable law or the Certificate of Incorporation. If a separate vote by one or more classes or series is required, the holders of shares entitled to cast a majority of the total votes entitled to be cast by the holders of the shares of the class or classes or series, present in person or represented by proxy, shall constitute a quorum entitled to take action with respect to that vote on that matter. If a quorum shall fail to attend any meeting, the chairman of the meeting may adjourn the meeting to another place, date and time.

Section 1.6. Organization.

The chairman of the Board of Directors or, in his or her absence, the person whom the Board of Directors designates or, in the absence of that person or the failure of the Board of Directors to designate a person, the President of the Corporation or, in his or her absence, the person chosen by the holders of a majority of the shares of capital stock entitled to vote who are present, in person or by proxy, shall call to order any meeting of the stockholders of the Corporation and act as chairman of the meeting. In the absence of the Secretary or any Assistant Secretary of the Corporation, the secretary of the meeting shall be the person the chairman appoints.

Section 1.7. Conduct of Business.

The chairman of any meeting of stockholders of the Corporation shall determine the order of business and the rules of procedure for the conduct of such meeting, including the manner of voting and the conduct of discussion as he or she determines to be in order. The chairman shall have the power to adjourn the meeting to another place, date and time. The date and time of the opening and closing of the polls for each matter upon which the stockholders will vote at the meeting shall be announced at the meeting. Except to the extent inconsistent with such rules and regulations as adopted by the Board of Directors, the chairman of the meeting shall have the right and authority to convene and (for any or no reason) to adjourn the meeting, to prescribe such rules, regulations and procedures and to do all such acts as, in the judgment of such chairman, are appropriate for the proper conduct of the meeting. Such rules, regulations or procedures, whether adopted by the Board of Directors or prescribed by the chairman of the meeting, may include, without limitation, the following: (i) the establishment of an agenda or order of business for the meeting; (ii) rules and procedures for maintaining order at the meeting and the safety of those present; (iii) limitations on attendance at or participation in the meeting to stockholders entitled to vote at the meeting, their duly authorized and constituted proxies or such other persons as the chairman of the meeting shall determine; (iv) restrictions on entry to the meeting after the time fixed for the commencement thereof; and (v) limitations on the time allotted to questions or comments by participants. The chairman of the meeting of stockholders, in addition to making any other determinations that may be appropriate to the conduct of the meeting, shall, if the facts warrant, determine and declare to the meeting that a nomination or matter of business was not properly

brought before the meeting and if such chairman should so determine, such chairman shall so declare to the meeting and any such matter or business not properly brought before the meeting shall not be transacted or considered.

Section 1.8. Proxies; Inspectors.

(a) At any meeting of the stockholders, every stockholder entitled to vote may vote in person or by proxy authorized by an instrument in writing or by a transmission permitted by applicable law.

(b) Prior to a meeting of the stockholders of the Corporation, the Corporation shall appoint one or more inspectors to act at a meeting of stockholders of the Corporation and make a written report thereof. The Corporation may designate one or more persons as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate is able to act at a meeting of stockholders, the person presiding at the meeting may, and to the extent required by applicable law, shall, appoint one or more inspectors to act at the meeting. Each inspector, before beginning the discharge of his or her duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of his or her ability. The inspectors may appoint or retain other persons or entities to assist the inspectors in the performance of the duties of inspectors. The inspectors shall have the duties prescribed by applicable law.

Section 1.9. Voting.

Except as otherwise required by the rules or regulations of any stock exchange applicable to the Corporation or pursuant to any law or regulation applicable to the Corporation or by the Certificate of Incorporation or these Bylaws, all matters other than the election of directors shall be determined by a majority of the votes cast on the matter affirmatively or negatively. All elections of directors shall be determined by a plurality of the votes cast.

Section 1.10. Action by Written Consent.

Except as otherwise may be provided in the Certificate of Incorporation, stockholders may not take any action by written consent in lieu of a meeting of stockholders.

Section 1.11. Stock List.

A complete list of stockholders of the Corporation entitled to vote at any meeting of stockholders of the Corporation, arranged in alphabetical order for each class of stock and showing the address of each such stockholder and the number of shares registered in the name of such stockholder, shall be open to the examination of any such stockholder, for any purpose germane to a meeting of the stockholders of the Corporation, for a period of at least 10 days before the meeting (i) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting or (ii) during ordinary business hours at the principal place of business of the Corporation; provided, however, if the record date for determining the stockholders entitled to vote is less than 10 days before the meeting date, the list shall reflect the stockholders entitled to vote as of the 10^{th} day before such meeting date. If the meeting is to be held at a place, then a list of stockholders entitled to vote at the meeting shall be produced and kept at the time and place of the meeting during the whole time thereof and may be examined by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then the list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting.

Except as otherwise provided by law, the stock ledger shall be the sole evidence of the identity of the stockholders entitled to vote at a meeting and the number of shares held by each stockholder.

SECTION 2 — BOARD OF DIRECTORS

Section 2.1. General Powers and Qualifications of Directors.

The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors. In addition to the powers and authorities these Bylaws expressly confer upon them, the Board of Directors may exercise all such powers of the Corporation and do all such lawful acts and things as are not by the DGCL or by the Certificate of Incorporation or by these Bylaws required to be exercised or done by the stockholders. Directors need not be stockholders of the Corporation to be qualified for election or service as a director of the Corporation.

Section 2.2. Number of Directors.

Subject to the special rights of the holders of any series of Preferred Stock to elect directors, the number of directors which shall constitute the Board of Directors shall be determined exclusively by the Board of Directors from time to time by resolution adopted by the affirmative vote of at least a majority of the directors then in office.

Section 2.3. Removal; Resignation.

Any director or the entire Board of Directors may be removed, but only with cause, by the holders of 75% of the voting power of the Voting Stock, voting together as a single class. Any director may resign at any time upon notice given in writing, including by electronic transmission, to the Corporation.

Section 2.4. Regular Meetings.

Regular meetings of the Board of Directors shall be held at the place, on the date and at the time as shall have been established by the Board of Directors and publicized among all directors. A notice of a regular meeting, the date of which has been so publicized, shall not be required.

Section 2.5. Special Meetings.

Special meetings of the Board of Directors may be called by the Chairman, President or by two or more directors then in office. Notice of the place, if any, date and time of each special meeting shall be given to each director either (a) by mailing written notice thereof not less than five days before the meeting, or (b) by telephone, facsimile or other means of electronic transmission providing notice thereof not less than twenty-four hours before the meeting. A meeting may be held at any time without notice if all the directors are present (except as otherwise provided by law) or if those not present waive notice of the meeting in writing, either before or after such meeting. Any and all business may be transacted at a special meeting of the Board of Directors.

Section 2.6. Quorum.

At any meeting of the Board of Directors, a majority of the total number of directors then in office shall constitute a quorum for all purposes.

If a quorum shall fail to attend any meeting, a majority of those present may adjourn the meeting to another place, date or time, without further notice or waiver thereof.

Section 2.7. Participation in Meetings By Conference Telephone or Other Communications Equipment.

Members of the Board of Directors, or of any committee thereof, may participate in a meeting of the Board of Directors or committee thereof by means of conference telephone or other communications equipment by means of which all directors participating in the meeting can hear each other director, and such participation shall constitute presence in person at the meeting.

Section 2.8. Conduct of Business.

At any meeting of the Board of Directors, business shall be transacted in the order and manner that the Board of Directors may from time to time determine, and all matters shall be determined by the vote of a majority of the directors present, provided that a quorum is present at the time such matter is acted upon, except as otherwise provided in the Certificate of Incorporation or these Bylaws or required by applicable law. The Board of Directors or any committee thereof may take action without a meeting if all members thereof

consent thereto in writing or by electronic transmission, and the writing or writings, or electronic transmission or electronic transmissions, are filed with the minutes of proceedings of the Board of Directors or any committee thereof. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

Section 2.9. Chairman of the Board.

The Board of Directors may elect or remove, by the affirmative vote of at least a majority of the directors then in office, a Chairman. Any Chairman must be a director of the Corporation and may or may not be an officer or employee of the Corporation. The Chairman shall preside at all meetings of the Board of Directors and at all meetings of the stockholders and, subject to the provisions of these Bylaws and the direction of the Board of Directors, the Chairman shall have such powers and perform such duties that are commonly incident to the position of chairman of the board or as may be prescribed from time to time by the Board of Directors or provided in these Bylaws.

Section 2.10. Compensation of Directors.

The Board of Directors shall be authorized to fix the compensation of directors. The directors of the Corporation shall be paid their expenses, if any, of attendance at each meeting of the Board of Directors and may be reimbursed a fixed sum for attendance at each meeting of the Board of Directors, paid an annual retainer or paid other compensation, including equity compensation, as the Board of Directors determines. No such payment shall preclude any director from serving the Corporation in any other capacity and receiving compensation therefor. Members of committees shall have their expenses, if any, of attendance of each meeting of such committee reimbursed and may be paid additional compensation for attending committee meetings or being a member of a committee.

SECTION 3 — COMMITTEES

Section 3.1. Committees of the Board of Directors.

The Board of Directors may designate committees of the Board of Directors, with such lawfully delegable powers and duties as it thereby confers, to serve at the pleasure of the Board of Directors and shall, for those committees, appoint a director or directors to serve as the member or members, designating, if it desires, other directors as alternate members who may replace any absent or disqualified member at any meeting of such committee. Such designations and appointments shall be determined by the vote of a majority of directors present at a meeting such matters are acted upon in accordance with Section 2; provided, however, that the chairperson of each committee shall be appointed, and may only be removed, with or without cause, by the affirmative vote of at least a majority of the directors then in office.

SECTION 4 — OFFICERS

Section 4.1. Generally.

The officers of the Corporation shall consist of one or more of the following: a President and Chief Executive Officer, one or more Senior Vice Presidents, one or more Vice Presidents, a Secretary, one or more Assistant Secretaries, a Treasurer, one or more Assistant Treasurers, a Chief Financial Officer and other officers as may from time to time be appointed by the Board of Directors. Each officer shall hold office until his or her successor is elected and qualified or until his or her earlier resignation or removal. Any number of offices may be held by the same person. The compensation of officers appointed by the Board of Directors shall be determined from time to time by the Board of Directors or a committee thereof or by the officers as may be designated by resolution of the Board of Directors.

Section 4.2. President.

Unless otherwise determined by the Board of Directors, the President shall be the Chief Executive Officer of the Corporation. Subject to the provisions of these Bylaws and to the direction of the Board of Directors, he or she shall have the responsibility for the general management and control of the business and affairs of the Corporation and shall perform all duties and have all powers that are commonly incident to the office of chief executive or which are delegated to him or her by the Board of Directors. He or she shall have the

power to sign all stock certificates, contracts and other instruments of the Corporation that are authorized and shall have general supervision and direction of all of the other officers, employees and agents of the Corporation.

Section 4.3. Senior Vice Presidents and Vice Presidents.

Each Senior Vice President and Vice President shall have the powers and duties delegated to him or her by the Board of Directors or the President. One Senior Vice President may be designated by the Board of Directors to perform the duties and exercise the powers of the President in the event of the President's absence or disability.

Section 4.4. Secretary and Assistant Secretaries.

The Secretary shall issue all authorized notices for, and shall keep minutes of, all meetings of the stockholders and the Board of Directors. He or she shall have charge of the corporate books and shall perform other duties as the Board of Directors may from time to time prescribe.

Any Assistant Secretary shall perform such duties and possess such powers as the Board of Directors, the Chief Executive Officer or the Secretary may from time to time prescribe. In the event of the absence, inability or refusal to act of the Secretary, the Assistant Secretary, (or if there shall be more than one, the Assistant Secretaries in the order determined by the Board of Directors) shall perform the duties and exercise the powers of the Secretary.

Section 4.5. Chief Financial Officer, Treasurer and Assistant Treasurers.

The Chief Financial Officer shall keep or cause to be kept the books of account of the Corporation in a thorough and proper manner and shall render statements of the financial affairs of the Corporation in such form and as often as required by the Board of Directors or the President. The Chief Financial Officer, subject to the order of the Board of Directors, shall have the custody of all funds and securities of the Corporation. The Chief Financial Officer shall perform other duties commonly incident to his office and shall also perform such other duties and have such other powers as the Board of Directors or the President shall designate from time to time. The President may direct the Treasurer or any Assistant Treasurer to assume and perform the duties of the Chief Financial Officer in the absence or disability of the Chief Financial Officer, and each Treasurer and Assistant Treasurer shall perform other duties commonly incident to his office and shall also perform such other duties and have such other powers as the Board of Directors or the President shall designate from time to time.

Section 4.6. Delegation of Authority.

The Board of Directors may from time to time delegate the powers or duties of any officer to any other officer or agent, notwithstanding any provision hereof.

Section 4.7. Removal.

The Board of Directors may remove any officer of the Corporation at any time, with or without cause, subject to the terms of any employment agreement then in effect.

Section 4.8. Action with Respect to Securities of Other Companies.

Unless otherwise directed by the Board of Directors, the President, or any officer of the Corporation authorized by the President, shall have power to vote and otherwise act on behalf of the Corporation, in person or by proxy, at any meeting of stockholders or equityholders of, or with respect to any action of, stockholders or equityholders of any other entity in which the Corporation may hold securities and otherwise to exercise any and all rights and powers which the Corporation may possess by reason of its ownership of securities in such other entity.

SECTION 5 — STOCK

Section 5.1. Certificates of Stock.

Shares of the capital stock of the Corporation may be certificated or uncertificated, as provided in the DGCL. Stock certificates shall be signed by, or in the name of the Corporation by, (i) the chairman of the Board of Directors (if any) or the vice-chairman of the Board of Directors (if any), or the President or a Senior Vice President, and (ii) the Secretary or an Assistant Secretary, or the Treasurer or an Assistant Treasurer, or the Chief Financial Officer, certifying the number of shares owned by such stockholder. Any signatures on a certificate may be by facsimile.

Section 5.2. Transfers of Stock.

Transfers of stock shall be made only upon the transfer books of the Corporation kept at an office of the Corporation (within or outside of the State of Delaware) or by transfer agents designated to transfer shares of the stock of the Corporation.

Section 5.3. Lost, Stolen or Destroyed Certificates.

In the event of the loss, theft or destruction of any certificate of stock, another may be issued in its place pursuant to regulations as the Board of Directors may establish concerning proof of the loss, theft or destruction and concerning the giving of a satisfactory bond or indemnity, if deemed appropriate.

Section 5.4. Regulations.

The issue, transfer, conversion and registration of certificates of stock of the Corporation shall be governed by other regulations as the Board of Directors may establish.

Section 5.5. Record Date.

(a) In order that the Corporation may determine the stockholders entitled to notice of any meeting of stockholders or any adjournment or postponement thereof, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall, unless otherwise required by law, not be more than sixty (60) nor less than ten (10) days before the date of such meeting. If the Board of Directors so fixes a date, such date shall also be the record date for determining the stockholders entitled to vote at such meeting unless the Board of Directors determines, at the time it fixes such record date, that a later date on or before the date of the meeting shall be the date for making such determination, subject to applicable law. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for determination of stockholders entitled to vote at the adjourned meeting, and in such case shall also fix as the record date for stockholders entitled to notice of such adjourned meeting the same or an earlier date as that fixed for determination of stockholders entitled to vote in accordance herewith at the adjourned meeting.

(b) In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board of Directors may fix a record date, which shall not be more than sixty (60) days prior to such other action. If no such record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

SECTION 6 — INDEMNIFICATION AND ADVANCEMENT OF EXPENSES

Section 6.1. Right to Indemnification and Advancement.

The Corporation shall indemnify, defend and hold harmless, to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person (an "Indemnitee") who was or is made a party or is threatened to be made a party to or is otherwise involved (including involvement, without limitation, as a witness) in any actual or-threatened action, suit or proceeding, whether civil, criminal, administrative or investigative (a "Proceeding"), by reason of the fact that he or she, or a person for whom he or she is the legal representative, is or was a director or officer of the Corporation or, while a director or officer of the Corporation, is or was serving at the request of the Corporation as an employee or agent of the Corporation or as a director, officer, partner, member, trustee, administrator, employee or agent of another corporation or of a partnership, joint venture, limited liability company, trust, nonprofit entity or other enterprise (including, but not limited to, service with respect to an employee benefit) (any such entity, an "Other Entity"), whether the basis of such Proceeding is alleged action in an official capacity as a director or officer or in any other capacity while serving as a director or officer, shall be indemnified and held harmless by the Corporation to the fullest extent authorized by the DGCL, as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than permitted prior thereto), against all expense, liability and loss (including, but not limited to, attorneys' fees and expenses) related disbursements, judgments, fines, excise taxes, penalties and amounts paid or to be paid in settlement, actually and reasonably incurred by such Indemnitee in connection with such Proceeding and such indemnification shall continue as to an Indemnitee who has ceased to be a director, officer, partner, member, trustee, administrator, employee or agent. Notwithstanding the preceding sentence, the Corporation shall be required to indemnify an Indemnitee in connection with a Proceeding (or part thereof) commenced by such Indemnitee only if the commencement of such Proceeding (or part thereof) by the Indemnitee was authorized by the Board of Directors of the Corporation or the Proceeding (or part thereof) relates to the enforcement of the Corporation's obligations under this Section 6.1. The right to indemnification conferred in this Section 6.1 shall be a contract right. The Corporation may also, by action of its Board of Directors, provide indemnification and advancement of expenses to employees and agents of the Corporation.

Section 6.2. Advancement of Expenses.

The Corporation shall to the fullest extent not prohibited by applicable law pay, on an as-incurred basis, all expenses (including, but not limited to attorneys' fees and expenses) incurred by an Indemnitee in defending any proceeding in advance of its final disposition. Such advancement shall be unconditional, unsecured and interest free and shall be made without regard to Indemnitee's ability to repay any expenses advanced; provided, that, to the extent required by law, such payment of expenses in advance of the final disposition of the Proceeding shall be made upon receipt of an unsecured undertaking by the Indemnitee to repay all amounts advanced if it should be ultimately be determined by final judicial decision from which there is no further right to appeal that such Indemnitee is not entitled to be indemnified under this Section 6 or otherwise.

Section 6.3. Procedure for Indemnification.

Any indemnification of a director or officer of the Corporation or advancement of expenses (including attorneys' fees, costs and charges) under this Section 6 shall be made promptly. If a claim for indemnification pursuant to this Section 6 is not paid in full within 60 days after the Corporation has received a written request for indemnity, or a claim for the advancement of expenses is not paid in full within 30 days after the Corporation has received a statement or statements requesting such amounts to be advanced, the indemnitee shall thereupon (but not before) be entitled to file suit to recover the unpaid amount of such claim. Such person's costs and expenses incurred in connection with successfully establishing his or her right to indemnification or advancement of expense, in whole or in part, in any such action shall also be paid by the Corporation to the fullest extent permitted by Delaware law. It shall be a defense to any such action (other than an action brought to enforce a claim for the advancement of expenses where the undertaking required pursuant to Section 6.1, if any, has been tendered to the Corporation) that the claimant has not met the standards of conduct which make it permissible under the DGCL for the Corporation to indemnify the

claimant for the amount claimed, but the burden of such defense shall be on the Corporation to the fullest extent permitted by law. Neither the failure of the Corporation (including its Board of Directors, independent legal counsel or its stockholders) to have made a determination prior to the commencement of such action that indemnification of the claimant is proper in the circumstances because he or she has met the applicable standard of conduct set forth in the DGCL, nor an actual determination by the Corporation (including its Board of Directors, independent legal counsel or its stockholders) that the claimant has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that the claimant has not met the applicable standard of conduct. The procedure for indemnification of other employees and agents for whom indemnification and advancement of expenses is provided pursuant to Section 6.1 and/or Section 6.2 shall be the same procedure set forth in this Section 6.3 for directors or officers, unless otherwise set forth in the action of the Board of Directors providing indemnification and advancement of expenses for such employee or agent.

Section 6.4. Insurance.

The Corporation may purchase and maintain insurance on its own behalf and on behalf of any person who is or was a director, officer, trustee, employee or agent of the Corporation or is or was serving at the request of the Corporation as a director, officer, trustee, employee or agent of an Other Entity against any expense, liability or loss asserted against him or her and incurred by him or her in any such capacity, or arising out of his or her status as such, whether or not the Corporation would have the power or the obligation to indemnify such person against such expenses, liability or loss under the provisions of this Section 6 or the DGCL.

Section 6.5. Service for Subsidiaries.

Any person serving as a director, officer, employee or agent of an Other Entity, at least 50% of whose equity interests are owned by the Corporation (a “subsidiary” for this Section 6) shall be conclusively presumed to be serving in such capacity at the request of the Corporation.

Section 6.6. Non-Exclusivity of Rights; Continuation of Rights to Indemnification.

The rights to indemnification and to the advance of expenses conferred on any Indemnitee by this Section 6 shall not be exclusive of any other right which any person may have or hereafter acquire under the Certificate of Incorporation or under any statute, bylaw, agreement, vote of stockholders or disinterested directors or otherwise, and shall inure to the benefit of the heirs, executors, administrators and legal representatives of such Indemnitee. All rights to indemnification and advancement of expenses and other rights contained in this Section 6 shall be deemed to be a contract between the Corporation and each person who may be an Indemnitee based on his or her or its service to or at the direction of the Corporation at any time while this Section 6 is in effect.

Section 6.7. Reliance.

Indemnitees who after the date of the adoption of this Section 6 become or remain an Indemnitee described in Section 6.1 will be conclusively presumed to have relied on the rights to indemnity, advancement of expenses and other rights contained in this Section 6 in entering into or continuing the service. The rights to indemnification and to the advancement of expenses conferred in this Section 6 will apply to claims made against any Indemnitee described in Section 6.1 arising out of acts or omissions that occurred or occur either before or after the adoption of this Section 6 in respect of service as a director or officer of the corporation or other service described in Section 6.1.

Section 6.8. Amounts Received from an Other Entity.

The Corporation’s obligation, if any, to indemnify or to advance expenses to any Indemnitee who was or is serving at the Corporation’s request as a director, officer, employee or agent of an Other Entity shall be reduced by any amount such Indemnitee may collect as indemnification or advancement of expenses from such Other Entity.

Section 6.9. Merger or Consolidation.

For purposes of this Section 6, references to the "Corporation" shall include, in addition to the resulting corporation, any constituent corporation (including any constituent of a constituent) absorbed in a consolidation or merger which, if its separate existence had continued, would have had power and authority to indemnify its directors, officers and employees or agents, so that any person who is or was a director, officer, employee or agent of such constituent corporation, or is or was serving at the request of such constituent corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, shall stand in the same position under this Section 6 with respect to the resulting or surviving corporation as he or she would have with respect to such constituent corporation if its separate existence had continued.

Section 6.10. Amendment or Repeal.

Any repeal or modification of this Section 6 or any repeal or modification of relevant provisions of the DGCL or any other applicable laws shall not in any way diminish any rights to indemnification and advancement of expenses of an Indemnitee or the obligations of the Corporation arising hereunder with respect to any Proceeding arising out of, or relating to, any actions, transactions or facts occurring prior to the final adoption of such repeal or modification.

Section 6.11. Other Indemnification and Advancement of Expenses.

This Section 6 shall not limit the right of the Corporation, to the extent and in the manner permitted by law, to indemnify and to advance expenses to persons other than Indemnitees when and as authorized by appropriate corporate action.

Section 6.12. Successful Defense.

In the event that any Proceeding to which an Indemnitee is a party is resolved in any manner other than by adverse judgment against the Indemnitee (including, without limitation, settlement of such proceeding with or without payment of money or other consideration) it shall be presumed that the Indemnitee has been successful on the merits or otherwise in such proceeding for purposes of Section 145(c) of the DGCL. Anyone seeking to overcome this presumption shall have the burden of proof and the burden of persuasion by clear and convincing evidence.

Section 6.13. Savings Clause.

If this Section 6 or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the Corporation shall nevertheless indemnify and advance expenses to each person entitled to indemnification under Section 6.1 as to all expense, liability and loss (including attorneys' fees and related disbursements, judgments, fines, ERISA excise taxes and penalties, penalties and amounts paid or to be paid in settlement) actually and reasonably incurred or suffered by such person and for which indemnification or advancement of expenses is available to such person pursuant to this Section 6 to the fullest extent permitted by any applicable portion of this Section 6 that shall not have been invalidated and to the fullest extent permitted by applicable law.

SECTION 7 — NOTICES

Section 7.1. Notices.

Except as otherwise provided herein or permitted by applicable law, notices to directors and stockholders shall be in writing and delivered personally, electronically or mailed to the directors or stockholders at their addresses appearing on the books of the Corporation. If mailed, notice to a stockholder of the Corporation shall be deemed given when deposited in the mail, postage prepaid, directed to a stockholder at such stockholder's address as it appears on the records of the Corporation. Without limiting the manner by which notice otherwise may be given effectively to stockholders, any notice to stockholders of the Corporation may be given by electronic transmission in the manner provided in Section 232 of the DGCL.

Section 7.2. Waivers.

A written waiver of any notice, signed by a stockholder or director, or a waiver by electronic transmission by such person or entity, whether given before or after the time of the event for which notice is to be given, shall be deemed equivalent to the notice required to be given to such person or entity. Neither the business nor the purpose of any meeting need be specified in the waiver. Attendance at any meeting shall constitute waiver of notice except attendance for the sole purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened.

SECTION 8 — MISCELLANEOUS

Section 8.1. Corporate Seal.

The Board of Directors may provide a suitable seal, containing the name of the Corporation, which seal shall be in the charge of the Secretary. If and when so directed by the Board of Directors, duplicates of the seal may be kept and used by the Treasurer or by an Assistant Secretary, Assistant Treasurer or the Chief Financial Officer.

Section 8.2. Reliance upon Books, Reports, and Records.

Each director and each member of any committee designated by the Board of Directors of the Corporation shall, in the performance of his or her duties, be fully protected in relying in good faith upon the books and records of the Corporation and upon such information, opinions, reports or statements presented to the Corporation by any of its officers, agents or employees, or committees of the Board of Directors so designated, or by any other person or entity as to matters which such director or committee member reasonably believes are within such other person's or entity's professional or expert competence and that has been selected with reasonable care by or on behalf of the Corporation.

Section 8.3. Fiscal Year.

The fiscal year of the Corporation shall be as fixed by the Board of Directors.

Section 8.4. Time Periods.

In applying any provision of these Bylaws that requires that an act be done or not be done a specified number of days before an event or that an act be done during a specified number of days before an event, calendar days shall be used, the day of the doing of the act shall be excluded, and the day of the event shall be included.

SECTION 9 — ADJUDICATION OF DISPUTES

Unless the Corporation consents in writing to the selection of an alternative forum, the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the corporation, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director or officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim against the Corporation or any director or officer or other employee of the Corporation arising pursuant to any provision of the DGCL or the Certificate of Incorporation or these Bylaws (any of which may be amended from time to time), or (iv) any action asserting a claim against the Corporation or any director or officer or other employee of the Corporation governed by the internal affairs doctrine shall be the Court of Chancery in the State of Delaware (or, if the Court of Chancery in the State of Delaware does not have jurisdiction, the federal District Court for the District of Delaware).

SECTION 10 — AMENDMENTS

These Bylaws may be altered, amended or repealed in accordance with the Certificate of Incorporation and the DGCL.

ANNEX B

FORM OF PARENT VOTING AGREEMENT

This VOTING AGREEMENT (this "***Agreement***"), dated as of January 18, 2017, is by and between, Altimmune, Inc., a Delaware corporation (the "***Company***"), and each of the undersigned stockholders (each, a "***Stockholder***," and, collectively, the "***Stockholders***") of PharmAthene, Inc., a Delaware corporation ("***Parent***"), identified on the signature page hereto.

A. The Company, Parent, Mustang Merger Sub Corp I Inc., a Delaware corporation and direct, wholly owned subsidiary of Parent ("***Merger Sub Corp***"), Mustang Merger Sub II LLC, a Delaware limited liability company and a direct wholly owned subsidiary of Parent ("***Merger Sub LLC***" and together with Merger Sub Corp, "***Merger Sub***"), and Shareholder Representative Services LLC, solely in its capacity as the representative of the stockholders of the Company, have entered into that certain Agreement and Plan of Merger and Reorganization (as amended from time to time, the "***Merger Agreement***"), dated as of January 18, 2017, pursuant to which Merger Sub Corp will merge with and into the Company ("***Merger 1***"), and immediately thereafter, the Company will merge with and into Merger Sub LLC, with Merger Sub LLC as the surviving entity in such merger ("***Merger 2***" and together with Merger 1, the "***Mergers***"), and Merger Sub LLC will continue as a direct wholly owned subsidiary of Parent; and

B. As of the date hereof, each Stockholder is the Beneficial Owner (as defined below) of, and has the sole right to vote and dispose of, that number of each class of the issued and outstanding capital stock of Parent (the "***Parent Shares***") set forth opposite such Stockholder's name on Schedule A hereto; and

C. Concurrently with the entry by the Company, Parent and Merger Sub into the Merger Agreement, and as a condition and inducement to the willingness of the Company to enter into the Merger Agreement and incur the obligations set forth therein, the Company has required that the Stockholders enter into this Agreement.

Accordingly, and in consideration of the foregoing and the mutual representations, warranties, covenants and agreements contained herein, the parties hereto, intending to be legally bound, hereby agree as follows:

ARTICLE I.
DEFINITIONS

Capitalized terms used but not defined in this Agreement are used in this Agreement with the meanings given to such terms in the Merger Agreement. In addition, for purposes of this Agreement:

"***Affiliate***" means, with respect to any specified Person, a Person who, at the time of determination, directly or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, such specified Person. For purposes of this Agreement, with respect to a Stockholder, "***Affiliate***" does not include Parent and the Persons that directly, or indirectly through one or more intermediaries, are controlled by Parent. For the avoidance of doubt, no officer or director of Parent will be deemed an Affiliate of another officer or director of Parent by virtue of his or her status as an officer or director of Parent.

"***Beneficially Owned***" or "***Beneficial Ownership***" with respect to any securities means having beneficial ownership of such securities (as determined pursuant to Rule 13d-3 under the Exchange Act, disregarding the phrase "within 60 days" in paragraph (d)(1)(i) thereof), including pursuant to any agreement, arrangement or understanding, whether or not in writing. Without duplicative counting of the same securities, securities Beneficially Owned by a Person include securities Beneficially Owned by (i) all Affiliates of such Person, and (ii) all other Persons with whom such Person would constitute a "group" within the meaning of Section 13(d) of the Exchange Act and the rules promulgated thereunder.

"***Beneficial Owner***" with respect to any securities means a Person that has Beneficial Ownership of such securities.

"***Subject Shares***" means, with respect to a Stockholder, without duplication, (i) the Parent Shares Beneficially Owned by such Stockholder on the date hereof as described on Schedule A, (ii) any additional Parent Shares Beneficially Owned or acquired by such Stockholder, including those over which such Stockholder acquires Beneficial Ownership from and after the date hereof, whether pursuant to existing stock

option agreements, warrants or otherwise, and (iii) any securities converted, exchanged or reclassified into Parent Shares. Without limiting the other provisions of this Agreement, in the event that Parent changes the number of Parent Shares issued and outstanding prior to the Termination Date as a result of a reclassification, stock split (including a reverse stock split), stock dividend or distribution, combination, recapitalization, subdivision, or other similar transaction, the number of Subject Shares subject to this Agreement will be equitably adjusted to reflect such change.

"***Transfer***" means, with respect to a security, the sale, transfer, pledge, hypothecation, encumbrance, assignment or disposition of such security or the Beneficial Ownership thereof, whether by operation of Law or otherwise, and each option, agreement, arrangement or understanding, whether or not in writing, to effect any of the foregoing. As a verb, "***Transfer***" has a correlative meaning.

ARTICLE II.
COVENANTS OF STOCKHOLDERS

2.1 **Irrevocable Proxy.** Concurrently with the execution of this Agreement, each Stockholder agrees to deliver to the Company a proxy in the form attached hereto as Exhibit A (the "***Proxy***"), which will be irrevocable to the fullest extent provided in Section 212 of the Delaware General Corporation Law (the "***DGCL***"), with respect to the Subject Shares referred to therein.

2.2 **Agreement to Vote.**

(a) At each and every meeting of the stockholders of Parent held prior to the Termination Date, however called, and at every adjournment or postponement thereof prior to the Termination Date, or in connection with each and every written consent of, or any other action by, the stockholders of Parent given or solicited prior to the Termination Date, each Stockholder will vote or provide a consent with respect to, or shall cause the holder of record on any applicable record date to vote or provide a consent with respect to, all of the Subject Shares entitled to vote or to consent thereon (i) in favor of the adoption of the Merger Agreement, the issuance of Parent Shares to the Company Stockholders pursuant to the terms of the Merger Agreement, and any other actions contemplated by the Merger Agreement, including the Parent Stockholder Proposals, and (ii) against any amendment of Parent's certificate of incorporation or bylaws or any other proposal or transaction involving Parent, the effect of which amendment or other proposal or transaction is to delay, impair, prevent or nullify the Mergers or the transactions contemplated by the Merger Agreement or change in any manner the voting rights of any capital stock of Parent, and against any other action or agreement that would result in a breach in any material respect of any covenant, representation or warranty or any other obligation or agreement of Parent or its stockholders under the Merger Agreement.

(b) No Stockholder will enter into any agreement with any Person (other than the Company) prior to the Termination Date (with respect to periods prior to or after the Termination Date) directly or indirectly to vote, consent, grant any proxy or give instructions with respect to the voting of, the Subject Shares in respect of the matters described in Section 2.2(a) hereof, or the effect of which would be inconsistent with or violate any provision contained in this Section 2.2. Any vote or consent (or withholding of consent) by any Stockholder that is not in accordance with this Section 2.2 will be considered null and void, and the provisions of the Proxy will be deemed to take immediate effect.

2.3 **Revocation of Proxies; Cooperation**. Each Stockholder agrees as follows:

(a) Such Stockholder hereby represents and warrants that any proxies heretofore given in respect of the Subject Shares with respect to the matters described in Section 2.2(a) hereof are not irrevocable, and such Stockholder hereby revokes any and all prior proxies with respect to such Subject Shares as they relate to such matters. Prior to the Termination Date, such Stockholder will not directly or indirectly grant any proxies or powers of attorney with respect to the matters set forth in Section 2.2(a) hereof (other than to the Company), deposit any of the Subject Shares or enter into a voting agreement (other than this Agreement) with respect to any of the Subject Shares relating to any matter described in Section 2.2(a).

(b) Such Stockholder will provide any information reasonably requested by the Company or Parent for any regulatory application or filing sought for such transactions.

2.4 **No Transfer of Subject Shares; Publicity**. Each Stockholder agrees that:

(a) It (i) will not Transfer or agree to Transfer any of the Subject Shares or, with respect to any matter described in Section 2.2(a), grant any proxy or power-of-attorney with respect to any of the Subject Shares, (ii) will take all action reasonably necessary to prevent creditors in respect of any pledge of the Subject Shares from exercising their rights under such pledge, and (iii) will not take any action that would make in a material respect any of its representations or warranties contained herein untrue or incorrect or would have the effect of preventing or disabling such Stockholder from performing any of its material obligations hereunder; *provided, however,* that Stockholder may transfer the Subject Shares (1) to Affiliates (including, for the avoidance of doubt, if Stockholder is a corporation, partnership, limited liability company, investment fund, trust or other business entity, such investment funds or other business entities controlled or managed by, or that controls or manages, or under common management with, the Stockholder) or charitable organizations, (2) if Stockholder is an individual, to any member of Stockholder's immediate family, or to a trust for the benefit of Stockholder or any member of Stockholder's immediate family for estate planning purposes or for the purposes of personal tax planning, or upon the death of Stockholder, by will or intestacy, (3) if Stockholder is a corporation, partnership, limited liability company, investment fund or other business entity, as part of a disposition, transfer or distribution by the Stockholder to its equity holders, (4) if the Stockholder is a trust, to a trustor or beneficiary of the trust; or (5) to a nominee or custodian of a Person or entity to whom a disposition or transfer would be permissible under this clause (any such transferee permitted under clauses (1) through (5), a "***Permitted Transferee***"); *provided, further,* that any such Transfer shall be permitted only if, as a precondition to such Transfer, the Permitted Transferee agrees in writing to be bound by all of the terms of this Agreement.

(b) Unless required by applicable Law or permitted by the Merger Agreement, such Stockholder will not, and will not authorize or direct any of its Affiliates, Representatives, employees or agents to, make any press release or public announcement with respect to this Agreement or the Merger Agreement or the transactions contemplated hereby or thereby, without the prior written consent of the Company in each instance.

2.5 **Resignation**. Each Stockholder that is a director or officer of Parent and who is not selected by Parent to serve as a director of Parent immediately after the Effective Time pursuant to the Merger Agreement, hereby resigns as a director and officer of Parent and every direct or indirect subsidiary or other Affiliate thereof, effective as of immediately prior to the Effective Time.

2.6 **Non-Solicitation**. Each Stockholder hereby agrees to comply with the obligations of Parent, its Subsidiaries and Representatives of Parent or any of its Subsidiaries set forth in Section 4.5(b) of the Merger Agreement, and agree not to take any action that would violate or breach, or cause the violation or breach of, Section 4.5(b) of the Merger Agreement.

ARTICLE III.
REPRESENTATIONS, WARRANTIES AND ADDITIONAL COVENANTS OF STOCKHOLDERS

Each Stockholder represents, warrants and covenants to the Company that:

3.1 **Ownership**. Such Stockholder is the sole Beneficial Owner or the record owner of the Subject Shares identified opposite such Stockholder's name on Schedule A and such Subject Shares constitute all of the capital stock of Parent Beneficially Owned by such Stockholder. Such Stockholder has good and valid title to all of the Subject Shares, free and clear of all Liens, claims, options, proxies, voting agreements and security interests and has the sole right to such Subject Shares and there are no restrictions on rights of disposition or other Liens pertaining to such Subject Shares. None of the Subject Shares is subject to any voting trust or other contract with respect to the voting thereof, and no proxy, power of attorney or other authorization has been granted with respect to any of such Subject Shares.

3.2 **Authority and Non-Contravention**.

(a) Such Stockholder has all necessary power and authority to execute and deliver this Agreement, to perform its obligations hereunder and to consummate the transactions contemplated hereby. The execution and delivery of this Agreement by such Stockholder and the consummation by such

Stockholder of the transactions contemplated hereby have been duly and validly authorized by all necessary action, and no other proceedings on the part of such Stockholder are necessary to authorize this Agreement or to consummate the transactions contemplated hereby.

(b) This Agreement has been duly and validly executed and delivered by such Stockholder and, assuming due authorization, execution and delivery of this Agreement by the Company, constitutes the legal, valid and binding obligation of such Stockholder, enforceable against such Stockholder in accordance with its terms except (i) to the extent limited by applicable bankruptcy, insolvency or similar laws affecting creditors' rights and (ii) the remedy of specific performance and injunctive and other forms of equitable relief may be subject to equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

(c) Such Stockholder is not nor will it be required to make any filing with or give any notice to, or to obtain any consent from, any Person in connection with the execution, delivery or performance of this Agreement or obtain any permit or approval from any Governmental Entity for any of the transactions contemplated hereby, except to the extent required by Section 13 or Section 16 of the Exchange Act and the rules promulgated thereunder.

(d) Neither the execution and delivery of this Agreement by such Stockholder nor the consummation of the transactions contemplated hereby will directly or indirectly (whether with notice or lapse of time or both) (i) conflict with, result in any violation of or constitute a default by such Stockholder under any mortgage, bond, indenture, agreement, instrument or obligation to which such Stockholder is a party or by which it or any of the Subject Shares are bound, or violate any permit of any Governmental Entity, or any applicable Law to which such Stockholder, or any of the Subject Shares, may be subject, or violate any organizational documents of such Stockholder or (ii) result in the imposition or creation of any Lien upon or with respect to any of the Subject Shares; except, in each case, for conflicts, violations, defaults or Liens that would not individually or in the aggregate be reasonably expected to prevent or materially impair or delay the performance by such Stockholder of its obligations hereunder.

(e) Such Stockholder has sole voting power and sole power to issue instructions with respect to the matters set forth in Article II hereof and sole power to agree to all of the matters set forth in this Agreement, in each case with respect to all of the Subject Shares, with no limitations, qualifications or restrictions on such rights.

3.3 **Total Shares**. Except as set forth on Schedule A, no Stockholder is the Beneficial Owner of, and does not have (whether currently, upon lapse of time, following the satisfaction of any conditions, upon the occurrence of any event or any combination of the foregoing) any right to acquire, any Parent Shares or any securities convertible into or exchangeable or exercisable for Parent Shares. No Stockholder has any other interest in or voting rights with respect to any Parent Shares or any securities convertible into or exchangeable or exercisable for Parent Shares.

3.4 **Reliance**. Each Stockholder understands and acknowledges that the Company is entering into the Merger Agreement in reliance upon Stockholders' execution, delivery and performance of this Agreement.

ARTICLE IV.
REPRESENTATIONS, WARRANTIES AND COVENANTS OF THE COMPANY

The Company represents, warrants and covenants to Stockholders that:

(a) The Company has all necessary corporate power and authority to execute and deliver this Agreement and to perform its obligations hereunder. The execution and delivery by the Company of this Agreement and the consummation by the Company of the transactions contemplated hereby have been duly and validly authorized by the Company and no other corporate proceedings on the part of the Company are necessary to authorize this Agreement or to consummate the transactions contemplated hereby.

(b) This Agreement has been duly and validly executed and delivered by the Company and, assuming due authorization, execution and delivery of this Agreement by the Stockholders, constitutes the legal, valid and binding obligation of the Company, enforceable against the Company in accordance with

its terms, except (i) to the extent limited by applicable bankruptcy, insolvency or similar laws affecting creditors' rights and (ii) the remedy of specific performance and injunctive and other forms of equitable relief may be subject to equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

ARTICLE V.
DISSENTERS' RIGHTS.

5.1 Stockholder hereby waives and agrees not to exercise any rights of appraisal or any dissenters' rights that Stockholder may have (whether under applicable Law or otherwise) or could potentially have or acquire in connection with the Merger.

ARTICLE VI.
TERM AND TERMINATION

6.1 This Agreement will become effective upon its execution by the Stockholders and the Company. This Agreement will terminate upon the earliest of (a) the Effective Time, (b) the termination of the Merger Agreement in accordance with Article 7 thereof, or (c) written notice by the Company to the Stockholders of the termination of this Agreement (the date of the earliest of the events described in clauses (a), (b) and (c), the "***Termination Date***"). Notwithstanding the foregoing, Article VII of this Agreement shall survive any termination hereof.

ARTICLE VII.
GENERAL PROVISIONS

7.1 **Action in Stockholder Capacity Only**. Each Stockholder is entering into this Agreement solely in such Stockholder's capacity as a record holder or Beneficial Owner, as applicable, of the Subject Shares and not in such Stockholder's capacity as a director or officer of Parent. Notwithstanding any asserted conflict, nothing herein will limit or affect any Stockholder's ability to act as an officer or director of Parent, including, if Stockholder is a director of Parent, its ability to vote in favor of a Parent Change of Recommendation, or to make any presentations to the Parent Board of Directors or take any other action that he or she determines to be necessary or appropriate in his or her discretion, without regard to this Agreement or any conflict of interest.

7.2 **No Ownership Interest**. Nothing contained in this Agreement will be deemed to vest in the Company or any of its Affiliates any direct or indirect ownership or incidents of ownership of or with respect to the Subject Shares. All rights, ownership and economic benefits of and relating to the Subject Shares will remain and belong to the Stockholders, and neither the Company nor any of its Affiliates will have any authority to manage, direct, superintend, restrict, regulate, govern or administer any of the policies or operations of Parent or exercise any power or authority to direct any Stockholder in the voting of any of the Subject Shares, except as otherwise expressly provided herein or in the Merger Agreement.

7.3 **Notices**. All notices and other communications hereunder shall be in writing (including email or similar writing) and must be given:

If to the Company, to:

Altimmune, Inc.
19 Firstfield Road, Suite 200
Gaithersburg, MD 20878
Attention: Bill Enright
Email: enright@altimmune.com

with a copy (which will not constitute notice) to:

Proskauer Rose LLP
1 International Place
Boston, MA 02110
Attention: Ori Solomon
Email: osolomon@proskauer.com

If to any Stockholder, to such Stockholder at its address set forth on Schedule A,

with a copy (which will not constitute notice) to:

Dentons US LLP
1221 Avenue of the Americas
New York, NY 10020
Attention: Jeffrey Baumel
Ilan Katz
Email: jeffrey.baumel@dentons.com
ilan.katz@dentons.com

or such other physical address or email address as a party may hereafter specify for the purpose by notice to the other parties hereto. Each notice, consent, waiver or other communication under this Agreement will be effective only (i) if given by email, when the email is transmitted to the email address specified in this Section 7.3 or (ii) if given by overnight courier or personal delivery when delivered at the physical address specified in this Section 7.3.

7.4 **Further Actions**. Upon the request of any party to this Agreement, the other party will (a) furnish to the requesting party any additional information, (b) execute and deliver, at their own expense, any other documents and (c) take any other actions as the requesting party may reasonably require to more effectively carry out the intent of this Agreement. Each Stockholder hereby agrees that Parent may publish and disclose in the Form S-4 Registration Statement and Proxy Statement (including all documents and schedules filed with the SEC) such Stockholder's identity and ownership of Subject Shares and the nature of such Stockholder's commitments, arrangements, and understandings under this Agreement and may further file this Agreement as an exhibit to the Form S-4 Registration Statement or in any other filing made by the Parent with the SEC relating to the Merger Agreement or the transactions contemplated thereby.

7.5 **Entire Agreement and Modification**. This Agreement, the Proxy and any other documents delivered by the parties in connection herewith constitute the entire agreement among the parties with respect to the subject matter hereof and supersede all prior agreements and understandings, both written and oral, between the parties with respect to its subject matter and constitute (along with the documents delivered pursuant to this Agreement) a complete and exclusive statement of the terms of the agreement between the parties with respect to its subject matter. This Agreement may not be amended, supplemented or otherwise modified except by a written document executed by the party against whose interest the modification will operate. The parties will not enter into any other agreement inconsistent with the terms and conditions of this Agreement and the Proxy, or that addresses any of the subject matters addressed in this Agreement and the Proxy.

7.6 **Drafting and Representation**. The parties agree that the terms and language of this Agreement were the result of negotiations between the parties and, as a result, there will be no presumption that any ambiguities in this Agreement will be resolved against any party. Any controversy over construction of this Agreement will be decided without regard to events of authorship or negotiation.

7.7 **Severability**. Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction will, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without affecting the validity or enforceability of the remaining provisions hereof. Any such prohibition or unenforceability in any jurisdiction will not invalidate or render unenforceable such provision in any other jurisdiction. If any provision of this Agreement is so broad as to be unenforceable, the provision will be interpreted to be only so broad as is enforceable.

7.8 **No Third-Party Rights**. No Stockholder may assign any of its rights or delegate any of its obligations under this Agreement without the prior written consent of the Company. The Company may not assign any of its rights or delegate any of its obligations under this Agreement with respect to any Stockholder without the prior written consent of such Stockholder. This Agreement will apply to, be binding in all respects upon, and inure to the benefit of each of the respective successors, personal or legal representatives, heirs, distributes, devisees, legatees, executors, administrators and permitted assigns of any Stockholder and the successors and permitted assigns of the Company. Nothing expressed or referred to in this Agreement will be construed to give any Person, other than the parties to this Agreement, any legal or equitable right, remedy or claim under or with respect to this Agreement or any provision of this Agreement except such rights as may inure to a successor or permitted assignee under this Section.

7.9 **Enforcement of Agreement**. Each Stockholder acknowledges and agrees that the Company could be damaged irreparably if any of the provisions of this Agreement are not performed in accordance with their specific terms and that any breach of this Agreement by any Stockholder could not be adequately compensated by monetary damages. Accordingly, each Stockholder agrees that, (a) it will waive, in any action for specific performance, the defense of adequacy of a remedy at law, and (b) in addition to any other right or remedy to which the Company may be entitled, at law or in equity, the Company will be entitled to enforce any provision of this Agreement by a decree of specific performance and to temporary, preliminary and permanent injunctive relief to prevent breaches or threatened breaches of any of the provisions of this Agreement, without posting any bond or other undertaking.

7.10 **Waiver**. The rights and remedies of the parties to this Agreement are cumulative and not alternative. Neither any failure nor any delay by a party in exercising any right, power or privilege under this Agreement, the Proxy or any of the documents referred to in this Agreement will operate as a waiver of such right, power or privilege, and no single or partial exercise of any such right, power or privilege will preclude any other or further exercise of such right, power or privilege or the exercise of any other right, power or privilege. To the maximum extent permitted by applicable Law, (a) no claim or right arising out of this Agreement, the Proxy or any of the documents referred to in this Agreement can be discharged by one party, in whole or in part, by a waiver or renunciation of the claim or right unless in a written document signed by the other party, (b) no waiver that may be given by a party will be applicable except in the specific instance for which it is given, and (c) no notice to or demand on one party will be deemed to be a waiver of any obligation of that party or of the right of the party giving such notice or demand to take further action without notice or demand as provided in this Agreement, the Proxy or the documents referred to in this Agreement.

7.11 **Governing Law**. This Agreement and all acts and transactions pursuant hereto and the rights and obligations of the parties hereto will be governed by, construed under and enforced in accordance with the laws of the State of Delaware, without giving effect to principles of conflict or choice of laws which would result in the application of the laws of any other jurisdiction.

7.12 **Consent to Jurisdiction**. Any suit, action or proceeding seeking to enforce any provision of, or based on any matter arising out of or in connection with, this Agreement, the Proxy or the transactions contemplated hereby or thereby will be brought exclusively in the United States District Court for the District of Delaware or in the Court of Chancery of the State of Delaware and each of the parties hereto hereby consents to the exclusive jurisdiction of those courts (and of the appropriate appellate courts therefrom) in any suit, action or proceeding and irrevocably waives, to the fullest extent permitted by applicable Law, any objection which it may now or hereafter have to the laying of the venue of any suit, action or proceeding in any of those courts or that any suit, action or proceeding which is brought in any of those courts has been brought in an inconvenient forum. Process in any suit, action or proceeding may be served on any party anywhere in the world, whether within or without the jurisdiction of any of the named courts. Without limiting the foregoing, each party agrees that service of process on it by notice as provided in Section 7.3 will be deemed effective service of process. EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY LAW, ALL RIGHTS TO TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM (WHETHER BASED ON CONTRACT, TORT OR OTHERWISE) ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OF THE TRANSACTIONS CONTEMPLATED HEREBY.

7.13 **Counterparts**. This Agreement may be executed in any number of counterparts, each of which will be deemed to be an original, but all of which, taken together, will constitute one and the same instrument. An electronic copy of a party's signature (including signatures in Adobe PDF or similar format) shall be deemed an original signature for purposes hereof.

7.14 **Expenses**. Except as otherwise provided in this Agreement, all costs and expenses incurred in connection with this Agreement and the transactions contemplated hereby will be paid by the party incurring such expenses.

7.15 **Headings; Construction**. The headings contained in this Agreement are for reference purposes only and will not affect in any way the meaning or interpretation of this Agreement. In this Agreement (a) words denoting the singular include the plural and vice versa, (b) "it" or "its" or words denoting any gender include all genders and (c) the word "including" means "including without limitation," whether or not expressed.

[Signature page follows]

IN WITNESS WHEREOF, the parties hereto have caused this Parent Voting Agreement to be duly executed as of the day and year first above written.

THE COMPANY: **ALTIMMUNE, INC.**

By: _____
Name:
Title:

STOCKHOLDERS:

_____
John M. Gill

_____
Philip MacNeill

_____
John Troyer, Ph.D.

_____
Eric I. Richman

_____
Jeffrey W. Runge, M.D.

_____
Mitchel B. Sayare, Ph.D.

_____
Derace L. Schaffer, M.D.

_____
Steven St. Peter, M.D.

_____
Jeffrey Steinberg

SCHEDULE A

STOCKHOLDERS

NAME AND ADDRESS OF STOCKHOLDERS	PARENT SHARES BENEFICIALLY OWNED
John M. Gill c/o PharmAthene, Inc., One Park Place, Suite 450 Annapolis, MD 21401	902,244
Philip MacNeill c/o PharmAthene, Inc., One Park Place, Suite 450 Annapolis, MD 21401	118,689
John Troyer, Ph.D. c/o PharmAthene, Inc., One Park Place, Suite 450 Annapolis, MD 21401	170,775
Eric I. Richman c/o PharmAthene, Inc., One Park Place, Suite 450 Annapolis, MD 21401	1,643,055
Jeffrey W. Runge, M.D. c/o PharmAthene, Inc., One Park Place, Suite 450 Annapolis, MD 21401	197,700
Mitchel B. Sayare, Ph.D. c/o PharmAthene, Inc., One Park Place, Suite 450 Annapolis, MD 21401	295,500
Derace L. Schaffer, M.D. c/o PharmAthene, Inc., One Park Place, Suite 450 Annapolis, MD 21401	1,207,711
Steven St. Peter, M.D. c/o PharmAthene, Inc., One Park Place, Suite 450 Annapolis, MD 21401	205,004
Jeffrey Steinberg c/o PharmAthene, Inc., One Park Place, Suite 450 Annapolis, MD 21401	121,065

EXHIBIT A

IRREVOCABLE PROXY

From and after the date hereof and until the Termination Date (as defined below), on which date this irrevocable proxy (the "***proxy***") will terminate and be of no further force or effect, the undersigned stockholder ("***Stockholder***") of PharmAthene, Inc., a Delaware corporation ("***Parent***"), hereby irrevocably (to the fullest extent permitted by Section 212 of the Delaware General Corporation Law) grants to, and appoints, Altimmune, Inc., a Delaware corporation (the "***Company***"), and any designee of the Company, and each of them individually, as the sole and exclusive attorney and proxy of the undersigned, with full power of substitution and re-substitution, to vote the Subject Shares (as defined in the Voting Agreement) or to issue instructions to the record holder to vote the Subject Shares, or grant a consent or approval in respect of the Subject Shares or issue instructions to the record holder to grant a consent or approval in respect of the Subject Shares, in a manner consistent with Section 2.2 of the Voting Agreement (as defined below). Upon the undersigned's execution of this Proxy, any and all prior proxies given by the undersigned with respect to any Subject Shares relating to the voting rights expressly provided herein are hereby revoked and the undersigned agrees not to grant any subsequent proxies with respect to the Subject Shares relating to such voting rights at any time prior to the Termination Date, on which date this proxy will terminate and be of no further force or effect.

This Proxy is irrevocable, is coupled with an interest and is granted pursuant to that certain Parent Voting Agreement (as amended from time to time, the "***Voting Agreement***") of even date herewith, by and among the Company and Stockholder, and is granted in consideration of the Company entering into the Merger Agreement (as defined in the Voting Agreement). As used herein, the term "***Termination Date***," and all capitalized terms used herein and not otherwise defined, will have the meanings set forth in the Voting Agreement. **The Stockholder agrees that this proxy will be irrevocable until the Termination Date, on which date this proxy will terminate and be of no further force or effect, and is coupled with an interest sufficient at law to support an irrevocable proxy and given to the Company as an inducement to enter into the Merger Agreement and, to the extent permitted under applicable law, will be valid and binding on any Person to whom Stockholder may transfer any of his, her or its Subject Shares whether as permitted by or in breach of the Voting Agreement.** The Stockholder hereby ratifies and confirms all that such irrevocable proxy may lawfully do or cause to be done by virtue hereof.

The attorneys and proxies named above, and each of them, are hereby authorized and empowered by the undersigned, at any time prior to the Termination Date, on which date this proxy will terminate and be of no further force or effect, to act as the undersigned's attorney and proxy to vote the Subject Shares, and to exercise all voting and other rights of the undersigned with respect to the Subject Shares (including, without limitation, the power to execute and deliver written consents pursuant to Section 228 of the Delaware General Corporation Law), at every annual, special or adjourned meeting of the stockholders of Parent and in every written consent in lieu of such meeting in a manner consistent with Section 2.2 of the Voting Agreement.

This Proxy will be binding upon the heirs, estate, executors, personal representatives, successors and assigns of Stockholder (including any transferee of any of the Subject Shares), and all authority herein conferred or agreed to be conferred will survive the death or incapacity of the Stockholder.

If any provision of this Proxy or any part of any such provision is held under any circumstances to be invalid or unenforceable in any jurisdiction, then (a) such provision or part thereof will, with respect to such circumstances and in such jurisdiction, be deemed amended to conform to applicable laws so as to be valid and enforceable to the fullest possible extent, (b) the invalidity or unenforceability of such provision or part thereof under such circumstances and in such jurisdiction will not affect the validity or enforceability of such provision or part thereof under any other circumstances or in any other jurisdiction, and (c) the invalidity or unenforceability of such provision or part thereof will not affect the validity or enforceability of the remainder of such provision or the validity or enforceability of any other provision of this Proxy. Each provision of this Proxy is separable from every other provision of this Proxy, and each part of each provision of this Proxy is separable from every other part of such provision.

With respect to any Subject Shares that are Beneficially Owned (as defined in the Voting Agreement) by the Stockholder but are not held of record by the Stockholder, the Stockholder shall take all action necessary to cause the record holder of such Subject Shares to grant the irrevocable proxy and take all other actions provided for in this proxy with respect to such Subject Shares.

Dated: January 18, 2017

[NAME OF INDIVIDUAL]

[NAME OF ENTITY]

By: _____

Name:

Title:

ANNEX C

FORM OF PHARMATHENE LOCK-UP AGREEMENT

This LOCK-UP AGREEMENT (this "***Agreement***"), dated as of January 18, 2017, is being executed and delivered as of January 18, 2017, by NAME OF STOCKHOLDER ("***Stockholder***") in favor of and for the benefit of PharmAthene, Inc. ("***Parent***").

RECITALS

A. Stockholder is director or officer of Parent or is a stockholder of Parent and an Affiliate of Stockholder.

B. Parent, Altimmune, Inc. (the "***Company***"), Mustang Merger Sub Corp I Inc., a Delaware corporation and direct, wholly owned subsidiary of Parent ("***Merger Sub Corp***"), Mustang Merger Sub II LLC, a Delaware limited liability company and a direct wholly owned subsidiary of Parent ("***Merger Sub LLC***" and together with Merger Sub Corp, "***Merger Sub***"), and Shareholder Representative Services LLC, solely in its capacity as the representative of the stockholders of the Company, have entered into that certain Agreement and Plan of Merger and Reorganization (as amended from time to time, the "***Merger Agreement***"), dated as of January 18, 2017, pursuant to which Merger Sub Corp will merge with and into the Company ("***Merger 1***"), and immediately thereafter, the Company will merge with and into Merger Sub LLC, with Merger Sub LLC as the surviving entity in such merger ("***Merger 2***" and together with Merger 1, the "***Mergers***"), and Merger Sub LLC will continue as a direct wholly owned subsidiary of Parent.

Stockholder, intending to be legally bound, agrees as follows:

1. Defined Terms. Each capitalized term used in this Agreement but not otherwise defined herein shall have the meaning ascribed thereto in the Merger Agreement.

2. Representations and Warranties of Stockholder. Stockholder represents and warrants to Parent as of the date hereof as follows:

(a) Stockholder is the holder and "beneficial owner" (as defined in Rule 13d-3 under the Securities Exchange Act of 1934, as amended) of the number of outstanding shares of common stock of Parent (the "Parent Shares") set forth beneath Stockholder's signature on the signature page hereof, and Stockholder has good and valid title to the Parent Shares, free and clear of any liens, pledges, security interests, adverse claims, equities, options, proxies, charges, encumbrances or restrictions of any nature, other than as otherwise restricted under the Securities Act of 1933, as amended (the " ***Securities Act***") and other applicable securities laws and regulations.

(b) Stockholder has the sole right to vote and to dispose of the Parent Shares.

(c) Stockholder has read this Agreement and, to the extent Stockholder felt necessary, has discussed with counsel the limitations imposed on Stockholder's ability to sell, transfer or otherwise dispose of the Parent Shares after the Merger. Stockholder fully understands the limitations this Agreement places upon Stockholder's ability to sell, transfer or otherwise dispose of the Parent Shares after the Merger.

3. Lock-Up.

(a) Stockholder will not, during the period commencing on the date of the Effective Time of Merger 1 and, subject to the terms set forth herein, ending 180 days after the Effective Time of Merger 1 (the "***Lock-up Period***"), (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any Parent Shares, or (2) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the Parent Shares, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of the Parent Shares, in cash or otherwise.

(b) Notwithstanding the foregoing, Stockholder may transfer Parent Shares (i) to Affiliates (including, for the avoidance of doubt, if Stockholder is a corporation, partnership, limited liability company, investment fund, trust or other business entity, such investment funds or other business entities

controlled or managed by, or that controls or manages, or under common management with, the Stockholder) or charitable organizations; (ii) if Stockholder is an individual, to any member of Stockholder's immediate family, or to a trust for the benefit of Stockholder or any member of Stockholder's immediate family for estate planning purposes or for the purposes of personal tax planning, or upon the death of Stockholder, by will or intestacy; (iii) if Stockholder is a corporation, partnership, limited liability company, investment fund or other business entity, as part of a disposition, transfer or distribution by the Stockholder to its equity holders; (iv) if the Stockholder is a trust, to a trustor or beneficiary of the trust; or (v) to a nominee or custodian of a Person or entity to whom a disposition or transfer would be permissible under this clause (b); provided, however, that any such transfer shall be permitted under this clause (b) only if, as a precondition to such transfer, such donee, transferee or distributee agrees in writing to be bound by all of the terms of this Agreement.

(c) For the avoidance of doubt, the restrictions in this Agreement shall apply only to the Parent Shares owned by the Stockholder as of the Effective Time of Merger 1 and Parent Shares issued upon the exercise of options outstanding as of the Effective Time of Merger 1 and no other security of Parent or any Affiliate thereof.

4. Stop Transfer Instructions. Stockholder acknowledges and agrees that stop transfer instructions will be given to Parent's transfer agent with respect to the Parent Shares until the expiration of the Lock-Up Period.

5. Independence of Obligations. The covenants and obligations of Stockholder set forth in this Agreement shall be construed as independent of any other agreement or arrangement between Stockholder, on the one hand, and Parent, on the other hand. The existence of any claim or cause of action by Stockholder against Parent shall not constitute a defense to the enforcement of any of such covenants or obligations against Stockholder.

6. Specific Performance. Stockholder acknowledges that Parent could be damaged irreparably if any of the provisions of this Agreement are not performed in accordance with their specific terms and that any breach of this Agreement by Stockholder could not be adequately compensated by monetary damages. Accordingly, Stockholder agrees that, (a) it will waive, in any action for specific performance, the defense of adequacy of a remedy at law, and (b) in addition to any other right or remedy to which Parent may be entitled, at law or in equity, Parent will be entitled to seek to enforce any provision of this Agreement by a decree of specific performance and to seek temporary, preliminary and permanent injunctive relief to prevent breaches or threatened breaches of any of the provisions of this Agreement, without posting any bond or other undertaking.

7. Notices. All notices and other communications hereunder shall be in writing (including email or similar writing) and must be given:

(a) If to Parent, to:

PharmAthene, Inc.
One Park Place, Suite 450
Annapolis, Maryland 21401
Attention: John Gill
Email: john.gill@pharmathene.com

with a copy (which will not constitute notice) to:

Dentons US LLP
1221 Avenue of the Americas
New York, NY 10020
Attention: Jeffrey Baumel
Ilan Katz
Email: jeffrey.baumel@dentons.com
ilan.katz@dentons.com

and with a copy (which will not constitute notice), following the Closing, to:

Proskauer Rose LLP
One International Place
Boston, MA 02110
Attention: Ori Solomon
Email: osolomon@proskauer.com

(b) If to Stockholder, to

[ ]
[ ]
Attention:
Email:

or such other physical address or email address as a party may hereafter specify for the purpose by notice to the other parties hereto. Each notice, consent, waiver or other communication under this Agreement will be effective only (i) if given by email, when the email is transmitted to the email address specified in this Section 7 or (ii) if given by overnight courier or personal delivery when delivered at the physical address specified in this Section 7.

8. Severability. Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction will, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without affecting the validity or enforceability of the remaining provisions hereof. Any such prohibition or unenforceability in any jurisdiction will not invalidate or render unenforceable such provision in any other jurisdiction. If any provision of this Agreement is so broad as to be unenforceable, the provision will be interpreted to be only so broad as is enforceable.

9. Governing Law. This Agreement and all acts and transactions pursuant hereto and the rights and obligations of the parties hereto will be governed by, construed under and enforced in accordance with the laws of the State of Delaware, without giving effect to principles of conflict or choice of laws which would result in the application of the laws of any other jurisdiction.

10. Consent to Jurisdiction. Any suit, action or proceeding seeking to enforce any provision of, or based on any matter arising out of or in connection with, this Agreement or the transactions contemplated hereby or thereby will be brought exclusively in the United States District Court for the District of Delaware or in the Court of Chancery of the State of Delaware, and each of the parties hereto hereby consents to the exclusive jurisdiction of those courts (and of the appropriate appellate courts therefrom) in any suit, action or proceeding and irrevocably waives, to the fullest extent permitted by applicable Law, any objection which it may now or hereafter have to the laying of the venue of any suit, action or proceeding in any of those courts or that any suit, action or proceeding which is brought in any of those courts has been brought in an inconvenient forum. Process in any suit, action or proceeding may be served on any party anywhere in the world, whether within or without the jurisdiction of any of the named courts. Without limiting the foregoing, each party agrees that service of process on it by notice as provided in Section 7 will be deemed effective service of process. EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY LAW, ALL RIGHTS TO TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM (WHETHER BASED ON CONTRACT, TORT OR OTHERWISE) ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OF THE TRANSACTIONS CONTEMPLATED HEREBY.

11. Waiver. The rights and remedies of the parties to this Agreement are cumulative and not alternative. Neither any failure nor any delay by a party in exercising any right, power or privilege under this Agreement or any of the documents referred to in this Agreement will operate as a waiver of such right, power or privilege, and no single or partial exercise of any such right, power or privilege will preclude any other or further exercise of such right, power or privilege or the exercise of any other right, power or privilege. To the maximum extent permitted by applicable Law, (a) no claim or right arising out of this Agreement or any of the documents referred to in this Agreement can be discharged by one party, in whole or in part, by a waiver or renunciation of the claim or right unless in a written document signed by the other party, (b) no waiver that

may be given by a party will be applicable except in the specific instance for which it is given, and (c) no notice to or demand on one party will be deemed to be a waiver of any obligation of that party or of the right of the party giving such notice or demand to take further action without notice or demand as provided in this Agreement or the documents referred to in this Agreement.

12. Effectiveness; Termination. This Agreement shall only be effective upon the Effective Time of Merger 1 and shall automatically terminate in the event of the termination of the Merger Agreement for any reason.

13. Further Assurances. Stockholder shall execute and/or cause to be delivered to Parent such instruments and other documents and shall take such other actions as Parent may reasonably request for the purpose of carrying out the transactions contemplated by this Agreement.

14. Entire Agreement and Modification. This Agreement, the Merger Agreement and any other documents delivered by the parties in connection herewith constitute the entire agreement among the parties with respect to the subject matter hereof and supersede all prior agreements and understandings, both written and oral, between the parties with respect to its subject matter and constitute (along with the documents delivered pursuant to this Agreement) a complete and exclusive statement of the terms of the agreement between the parties with respect to its subject matter. This Agreement may not be amended, supplemented or otherwise modified except by a written document executed by the party against whose interest the modification will operate. The parties will not enter into any other agreement inconsistent with the terms and conditions of this Agreement and the Merger Agreement, or that addresses any of the subject matters addressed in this Agreement and the Merger Agreement.

15. Non-Exclusivity. The rights and remedies of Parent hereunder are not exclusive of or limited by any other rights or remedies which Parent may have, whether at law, in equity, by contract or otherwise, all of which shall be cumulative (and not alternative).

16. Expenses. Except as otherwise provided in this Agreement, all costs and expenses incurred in connection with this Agreement and the transactions contemplated hereby will be paid by the party incurring such expenses.

17. Assignment. This Agreement and all obligations of Stockholder hereunder are personal to Stockholder and may not be transferred or delegated by Stockholder at any time, except in accordance with Section 2(b) of this Agreement. Parent may freely assign any or all of its rights under this Agreement, in whole or in part, to any successor entity without obtaining the consent or approval of Stockholder.

18. Binding Nature. Subject to Section 17, this Agreement will inure to the benefit of Parent and its successors and assigns and will be binding upon Stockholder and Stockholder's representatives, executors, administrators, estate, heirs, successors and assigns.

19. Survival. Each of the representations, warranties, covenants and obligations contained in this Agreement shall survive the consummation of the Mergers.

20. Counterparts. This Agreement may be executed in any number of counterparts, each of which will be deemed to be an original, but all of which, taken together, will constitute one and the same instrument. An electronic copy of a party's signature (including signatures in Adobe PDF or similar format) shall be deemed an original signature for purposes hereof.

21. Headings; Construction. The headings contained in this Agreement are for reference purposes only and will not affect in any way the meaning or interpretation of this Agreement. In this Agreement (a) words denoting the singular include the plural and vice versa, (b) "it" or "its" or words denoting any gender include all genders and (c) the word "including" means "including without limitation," whether or not expressed.

(Signature page follows)

IN WITNESS WHEREOF, the parties hereto have caused this Lock-Up Agreement to be duly executed as of the day and year first above written.

THE COMPANY
PHARMATHENE, INC.

By: _____
Name:
Title:

STOCKHOLDER:

_____

[ ]
PARENT SHARES:

Annex D

FORM OF COMPANY VOTING AGREEMENT

This VOTING AGREEMENT (this "***Agreement***"), dated as of January , 2017, is by and between PharmAthene, Inc., a Delaware corporation ("***Parent***"), and each of the undersigned stockholders (each, a "***Stockholder***," and, collectively, the "***Stockholders***") of Altimmune, Inc., a Delaware corporation (the "***Company***"), identified on the signature page hereto.

A. The Company, Parent, Mustang Merger Sub Corp I Inc., a Delaware corporation and direct, wholly owned subsidiary of Parent ("***Merger Sub Corp***"), Mustang Merger Sub II LLC, a Delaware limited liability company and a direct wholly owned subsidiary of Parent ("***Merger Sub LLC***" and together with Merger Sub Corp, "***Merger Sub***"), and Shareholder Representative Services LLC, solely in its capacity as the representative of the stockholders of the Company, have entered into that certain Agreement and Plan of Merger and Reorganization (as amended from time to time, the "***Merger Agreement***"), dated as of January 18, 2017, pursuant to which Merger Sub Corp will merge with and into the Company ("***Merger 1***"), and immediately thereafter, the Company will merge with and into Merger Sub LLC, with Merger Sub LLC as the surviving entity in such merger ("***Merger 2***" and together with Merger 1, the "***Mergers***"), and Merger Sub LLC will continue as a direct wholly owned subsidiary of Parent; and

B. As of the date hereof, each Stockholder is the Beneficial Owner (as defined below) of, and has the sole right to vote and dispose of, that number of each class of the issued and outstanding capital stock of the Company (the "***Company Shares***") set forth opposite such Stockholder's name on Schedule A hereto.

Accordingly, and in consideration of the foregoing and the mutual representations, warranties, covenants and agreements contained herein, the parties hereto, intending to be legally bound, hereby agree as follows:

ARTICLE I.
DEFINITIONS

Capitalized terms used but not defined in this Agreement are used in this Agreement with the meanings given to such terms in the Merger Agreement. In addition, for purposes of this Agreement:

"***Affiliate***" means, with respect to any specified Person, a Person who, at the time of determination, directly or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, such specified Person. For purposes of this Agreement, with respect to a Stockholder, "***Affiliate***" does not include the Company and the Persons that directly, or indirectly through one or more intermediaries, are controlled by the Company. For the avoidance of doubt, no officer or director of the Company will be deemed an Affiliate of another officer or director of the Company by virtue of his or her status as an officer or director of the Company.

"***Beneficially Owned***" or "***Beneficial Ownership***" with respect to any securities means having beneficial ownership of such securities (as determined pursuant to Rule 13d-3 under the Exchange Act, disregarding the phrase "within 60 days" in paragraph (d)(1)(i) thereof), including pursuant to any agreement, arrangement or understanding, whether or not in writing. Without duplicative counting of the same securities, securities Beneficially Owned by a Person include securities Beneficially Owned by (i) all Affiliates of such Person, and (ii) all other Persons with whom such Person would constitute a "group" within the meaning of Section 13(d) of the Exchange Act and the rules promulgated thereunder.

"***Beneficial Owner***" with respect to any securities means a Person that has Beneficial Ownership of such securities.

"***Subject Shares***" means, with respect to a Stockholder, without duplication, (i) the Company Shares Beneficially Owned by such Stockholder on the date hereof as described on Schedule A, (ii) any additional Company Shares Beneficially Owned or acquired by such Stockholder, including those over which such Stockholder acquires Beneficial Ownership from and after the date hereof, whether pursuant to existing stock option agreements, warrants or otherwise, and (iii) any securities converted, exchanged or reclassified into Company Shares. Without limiting the other provisions of this Agreement, in the event that the Company changes the number of Company Shares issued and outstanding prior to the Termination Date as a result of a

reclassification, stock split (including a reverse stock split), stock dividend or distribution, combination, recapitalization, subdivision, or other similar transaction, the number of Subject Shares subject to this Agreement will be equitably adjusted to reflect such change.

"***Transfer***" means, with respect to a security, the sale, transfer, pledge, hypothecation, encumbrance, assignment or disposition of such security or the Beneficial Ownership thereof, whether by operation of Law or otherwise, and each option, agreement, arrangement or understanding, whether or not in writing, to effect any of the foregoing. As a verb, "***Transfer***" has a correlative meaning.

ARTICLE II.
COVENANTS OF STOCKHOLDERS

2.1 **Irrevocable Proxy.** Concurrently with the execution of this Agreement, each Stockholder agrees to deliver to Parent a proxy in the form attached hereto as Exhibit A (the "***Proxy***"), which will be irrevocable to the fullest extent provided in Section 212 of the Delaware General Corporation Law (the "***DGCL***"), with respect to the Subject Shares referred to therein.

2.2 **Agreement to Vote.**

(a) At each and every meeting of the stockholders of the Company held prior to the Termination Date, however called, and at every adjournment or postponement thereof prior to the Termination Date, or in connection with each and every written consent of, or any other action by, the stockholders of the Company given or solicited prior to the Termination Date, each Stockholder will vote or provide a consent with respect to, or shall cause the holder of record on any applicable record date to vote or provide a consent with respect to, all of the Subject Shares entitled to vote or to consent thereon (i) in favor of the adoption of the Merger Agreement and (ii) against any amendment of the Company's certificate of incorporation or bylaws or any other proposal or transaction involving the Company, the effect of which amendment or other proposal or transaction is to delay, impair, prevent or nullify the Mergers or the transactions contemplated by the Merger Agreement or change in any manner the voting rights of any capital stock of the Company, and against any other action or agreement that would result in a breach in any material respect of any covenant, representation or warranty or any other obligation or agreement of the Company or its stockholders under the Merger Agreement.

(b) No Stockholder will enter into any agreement with any Person (other than Parent) prior to the Termination Date (with respect to periods prior to or after the Termination Date) directly or indirectly to vote, consent, grant any proxy or give instructions with respect to the voting of, the Subject Shares in respect of the matters described in Section 2.2(a) hereof, or the effect of which would be inconsistent with or violate any provision contained in this Section 2.2. Any vote or consent (or withholding of consent) by any Stockholder that is not in accordance with this Section 2.2 will be considered null and void, and the provisions of the Proxy will be deemed to take immediate effect.

2.3 **Revocation of Proxies; Cooperation**. Each Stockholder agrees as follows:

(a) Such Stockholder hereby represents and warrants that any proxies heretofore given in respect of the Subject Shares with respect to the matters described in Section 2.2(a) hereof are not irrevocable, and such Stockholder hereby revokes any and all prior proxies with respect to such Subject Shares as they relate to such matters. Prior to the Termination Date, such Stockholder will not directly or indirectly grant any proxies or powers of attorney with respect to the matters set forth in Section 2.2(a) hereof (other than to Parent), deposit any of the Subject Shares or enter into a voting agreement (other than this Agreement) with respect to any of the Subject Shares relating to any matter described in Section 2.2(a).

(b) Such Stockholder will provide any information reasonably requested by the Company or Parent for any regulatory application or filing sought for such transactions.

2.4 **No Transfer of Subject Shares; Publicity**. Each Stockholder agrees that:

(a) It (i) will not Transfer or agree to Transfer any of the Subject Shares or, with respect to any matter described in Section 2.2(a), grant any proxy or power-of-attorney with respect to any of the Subject Shares, (ii) will take all action reasonably necessary to prevent creditors in respect of any pledge of the Subject Shares from exercising their rights under such pledge, and (iii) will not take any action

that would make in a material respect any of its representations or warranties contained herein untrue or incorrect or would have the effect of preventing or disabling such Stockholder from performing any of its material obligations hereunder; *provided, however,* that Stockholder may transfer the Subject Shares (1) to Affiliates (including, for the avoidance of doubt, if Stockholder is a corporation, partnership, limited liability company, investment fund, trust or other business entity, such investment funds or other business entities controlled or managed by, or that controls or manages, or under common management with, the Stockholder) or charitable organizations, (2) if Stockholder is an individual, to any member of Stockholder's immediate family, or to a trust for the benefit of Stockholder or any member of Stockholder's immediate family for estate planning purposes or for the purposes of personal tax planning, or upon the death of Stockholder, by will or intestacy, (3) if Stockholder is a corporation, partnership, limited liability company, investment fund or other business entity, as part of a disposition, transfer or distribution by the Stockholder to its equity holders, (4) if the Stockholder is a trust, to a trustor or beneficiary of the trust; or (5) to a nominee or custodian of a Person or entity to whom a disposition or transfer would be permissible under this clause (any such transferee permitted under clauses (1) through (5), a "***Permitted Transferee***"); *provided, further,* that any such Transfer shall be permitted only if, as a precondition to such Transfer, the Permitted Transferee agrees in writing to be bound by all of the terms of this Agreement.

(b) Unless required by applicable Law or permitted by the Merger Agreement, such Stockholder will not, and will not authorize or direct any of its Affiliates, Representatives, employees or agents to, make any press release or public announcement with respect to this Agreement or the Merger Agreement or the transactions contemplated hereby or thereby, without the prior written consent of Parent in each instance.

2.5 **Non-Solicitation**. Each Stockholder hereby agrees to comply with the obligations of the Company and Representatives of the Company set forth in Section 4.5(b) of the Merger Agreement, and agree not to take any action that would violate or breach, or cause the violation or breach of, Section 4.5(b) of the Merger Agreement.

ARTICLE III.
REPRESENTATIONS, WARRANTIES AND ADDITIONAL COVENANTS OF STOCKHOLDERS

Each Stockholder represents, warrants and covenants to Parent that:

3.1 **Ownership**. Such Stockholder is the sole Beneficial Owner or the record owner of the Subject Shares identified opposite such Stockholder's name on Schedule A and such Subject Shares constitute all of the capital stock of the Company Beneficially Owned by such Stockholder. Such Stockholder has good and valid title to all of the Subject Shares, free and clear of all Liens, claims, options, proxies, voting agreements and security interests and has the sole right to such Subject Shares and there are no restrictions on rights of disposition or other Liens pertaining to such Subject Shares. None of the Subject Shares is subject to any voting trust or other contract with respect to the voting thereof, and no proxy, power of attorney or other authorization has been granted with respect to any of such Subject Shares.

3.2 **Authority and Non-Contravention**.

(a) Such Stockholder has all necessary power and authority to execute and deliver this Agreement, to perform its obligations hereunder and to consummate the transactions contemplated hereby. The execution and delivery of this Agreement by such Stockholder and the consummation by such Stockholder of the transactions contemplated hereby have been duly and validly authorized by all necessary action, and no other proceedings on the part of such Stockholder are necessary to authorize this Agreement or to consummate the transactions contemplated hereby.

(b) This Agreement has been duly and validly executed and delivered by such Stockholder and, assuming due authorization, execution and delivery of this Agreement by Parent, constitutes the legal, valid and binding obligation of such Stockholder, enforceable against such Stockholder in accordance with its terms except (i) to the extent limited by applicable bankruptcy, insolvency or similar laws affecting creditors' rights and (ii) the remedy of specific performance and injunctive and other forms of equitable relief may be subject to equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

(c) Such Stockholder is not nor will it be required to make any filing with or give any notice to, or to obtain any consent from, any Person in connection with the execution, delivery or performance of this Agreement or obtain any permit or approval from any Governmental Entity for any of the transactions contemplated hereby, except to the extent required by Section 13 or Section 16 of the Exchange Act and the rules promulgated thereunder.

(d) Neither the execution and delivery of this Agreement by such Stockholder nor the consummation of the transactions contemplated hereby will directly or indirectly (whether with notice or lapse of time or both) (i) conflict with, result in any violation of or constitute a default by such Stockholder under any mortgage, bond, indenture, agreement, instrument or obligation to which such Stockholder is a party or by which it or any of the Subject Shares are bound, or violate any permit of any Governmental Entity, or any applicable Law to which such Stockholder, or any of the Subject Shares, may be subject, or violate any organizational documents of such Stockholder or (ii) result in the imposition or creation of any Lien upon or with respect to any of the Subject Shares; except, in each case, for conflicts, violations, defaults or Liens that would not individually or in the aggregate be reasonably expected to prevent or materially impair or delay the performance by such Stockholder of its obligations hereunder.

(e) Such Stockholder has sole voting power and sole power to issue instructions with respect to the matters set forth in Article II hereof and sole power to agree to all of the matters set forth in this Agreement, in each case with respect to all of the Subject Shares, with no limitations, qualifications or restrictions on such rights.

3.3 **Total Shares**. Except as set forth on Schedule A, no Stockholder is the Beneficial Owner of, and does not have (whether currently, upon lapse of time, following the satisfaction of any conditions, upon the occurrence of any event or any combination of the foregoing) any right to acquire, any Company Shares or any securities convertible into or exchangeable or exercisable for Company Shares. No Stockholder has any other interest in or voting rights with respect to any Company Shares or any securities convertible into or exchangeable or exercisable for Company Shares.

ARTICLE IV.
REPRESENTATIONS, WARRANTIES AND COVENANTS OF PARENT

Parent represents, warrants and covenants to Stockholders that:

(a) Parent has all necessary corporate power and authority to execute and deliver this Agreement and to perform its obligations hereunder. The execution and delivery by Parent of this Agreement and the consummation by Parent of the transactions contemplated hereby have been duly and validly authorized by Parent and no other corporate proceedings on the part of Parent are necessary to authorize this Agreement or to consummate the transactions contemplated hereby.

(b) This Agreement has been duly and validly executed and delivered by Parent and, assuming due authorization, execution and delivery of this Agreement by the Stockholders, constitutes the legal, valid and binding obligation of Parent, enforceable against Parent in accordance with its terms, except (i) to the extent limited by applicable bankruptcy, insolvency or similar laws affecting creditors' rights and (ii) the remedy of specific performance and injunctive and other forms of equitable relief may be subject to equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

ARTICLE V.
DISSENTERS' RIGHTS.

5.1 Stockholder hereby waives and agrees not to exercise any rights of appraisal or any dissenters' rights that Stockholder may have (whether under applicable Law or otherwise) or could potentially have or acquire in connection with the Mergers.

ARTICLE VI.
TERM AND TERMINATION

6.1 This Agreement will become effective upon its execution by the Stockholders and Parent. This Agreement will terminate upon the earliest of (a) the Effective Time, (b) the termination of the Merger

Agreement in accordance with Article 7 thereof, or (c) written notice by Parent to the Stockholders of the termination of this Agreement (the date of the earliest of the events described in clauses (a), (b) and (c), the "***Termination Date***"). Notwithstanding the foregoing, Article VII of this Agreement shall survive any termination hereof.

ARTICLE VII.
GENERAL PROVISIONS

7.1 **Action in Stockholder Capacity Only**. Each Stockholder is entering into this Agreement solely in such Stockholder's capacity as a record holder or Beneficial Owner, as applicable, of the Subject Shares and not in such Stockholder's capacity as a director or officer of the Company. Notwithstanding any asserted conflict, nothing herein will limit or affect any Stockholder's ability to act as an officer or director of the Company, including, if Stockholder is a director of the Company, its ability to vote in favor of a Company Change of Recommendation, or to make any presentations to the Company Board of Directors or take any other action that he or she determines to be necessary or appropriate in his or her discretion, without regard to this Agreement or any conflict of interest.

7.2 **No Ownership Interest**. Nothing contained in this Agreement will be deemed to vest in Parent or any of its Affiliates any direct or indirect ownership or incidents of ownership of or with respect to the Subject Shares. All rights, ownership and economic benefits of and relating to the Subject Shares will remain and belong to the Stockholders, and neither Parent nor any of its Affiliates will have any authority to manage, direct, superintend, restrict, regulate, govern or administer any of the policies or operations of the Company or exercise any power or authority to direct any Stockholder in the voting of any of the Subject Shares, except as otherwise expressly provided herein or in the Merger Agreement.

7.3 **Notices**. All notices and other communications hereunder shall be in writing (including email or similar writing) and must be given:

If to Parent, to:

PharmAthene, Inc.
One Park Place, Suite 450
Annapolis, Maryland 21401
Attention: John Gill
Email: john.gill@pharmathene.com

with a copy (which will not constitute notice) to:

Dentons US LLP
1221 Avenue of the Americas
New York, NY 10020
Attention: Jeffrey Baumel
Ilan Katz
Email: jeffrey.baumel@dentons.com
ilan.katz@dentons.com

and with a copy (which will not constitute notice), following the Closing, to:

Proskauer Rose LLP
One International Place
Boston, MA 02110
Attention: Ori Solomon
Email: osolomon@proskauer.com

If to any Stockholder, to such Stockholder at its address set forth on Schedule A,

with a copy (which will not constitute notice) to:

Proskauer Rose LLP
1 International Place
Boston, MA 02110
Attention: Ori Solomon
Email: osolomon@proskauer.com

or such other physical address or email address as a party may hereafter specify for the purpose by notice to the other parties hereto. Each notice, consent, waiver or other communication under this Agreement will be effective only (i) if given by email, when the email is transmitted to the email address specified in this Section 7.3 or (ii) if given by overnight courier or personal delivery when delivered at the physical address specified in this Section 7.3,

7.4 **Further Actions**. Upon the request of any party to this Agreement, the other party will (a) furnish to the requesting party any additional information, (b) execute and deliver, at their own expense, any other documents and (c) take any other actions as the requesting party may reasonably require to more effectively carry out the intent of this Agreement. Each Stockholder hereby agrees that Parent may publish and disclose in the Form S-4 Registration Statement and Proxy Statement (including all documents and schedules filed with the SEC) such Stockholder's identity and ownership of Subject Shares and the nature of such Stockholder's commitments, arrangements, and understandings under this Agreement and may further file this Agreement as an exhibit to the Form S-4 Registration Statement or in any other filing made by the Parent with the SEC relating to the Merger Agreement or the transactions contemplated thereby.

7.5 **Entire Agreement and Modification**. This Agreement, the Proxy and any other documents delivered by the parties in connection herewith constitute the entire agreement among the parties with respect to the subject matter hereof and supersede all prior agreements and understandings, both written and oral, between the parties with respect to its subject matter and constitute (along with the documents delivered pursuant to this Agreement) a complete and exclusive statement of the terms of the agreement between the parties with respect to its subject matter. This Agreement may not be amended, supplemented or otherwise modified except by a written document executed by the party against whose interest the modification will operate. The parties will not enter into any other agreement inconsistent with the terms and conditions of this Agreement and the Proxy, or that addresses any of the subject matters addressed in this Agreement and the Proxy.

7.6 **Drafting and Representation**. The parties agree that the terms and language of this Agreement were the result of negotiations between the parties and, as a result, there will be no presumption that any ambiguities in this Agreement will be resolved against any party. Any controversy over construction of this Agreement will be decided without regard to events of authorship or negotiation.

7.7 **Severability**. Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction will, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without affecting the validity or enforceability of the remaining provisions hereof. Any such prohibition or unenforceability in any jurisdiction will not invalidate or render unenforceable such provision in any other jurisdiction. If any provision of this Agreement is so broad as to be unenforceable, the provision will be interpreted to be only so broad as is enforceable.

7.8 **No Third-Party Rights**. No Stockholder may assign any of its rights or delegate any of its obligations under this Agreement without the prior written consent of Parent. Parent may not assign any of its rights or delegate any of its obligations under this Agreement with respect to any Stockholder without the prior written consent of such Stockholder. This Agreement will apply to, be binding in all respects upon, and inure to the benefit of each of the respective successors, personal or legal representatives, heirs, distributes, devisees, legatees, executors, administrators and permitted assigns of any Stockholder and the successors and permitted assigns of Parent. Nothing expressed or referred to in this Agreement will be construed to give any Person, other than the parties to this Agreement, any legal or equitable right, remedy or claim under or with

respect to this Agreement or any provision of this Agreement except such rights as may inure to a successor or permitted assignee under this Section.

7.9 **Enforcement of Agreement**. Each Stockholder acknowledges and agrees that Parent could be damaged irreparably if any of the provisions of this Agreement are not performed in accordance with their specific terms and that any breach of this Agreement by any Stockholder could not be adequately compensated by monetary damages. Accordingly, each Stockholder agrees that, (a) it will waive, in any action for specific performance, the defense of adequacy of a remedy at law, and (b) in addition to any other right or remedy to which Parent may be entitled, at law or in equity, Parent will be entitled to enforce any provision of this Agreement by a decree of specific performance and to temporary, preliminary and permanent injunctive relief to prevent breaches or threatened breaches of any of the provisions of this Agreement, without posting any bond or other undertaking.

7.10 **Waiver**. The rights and remedies of the parties to this Agreement are cumulative and not alternative. Neither any failure nor any delay by a party in exercising any right, power or privilege under this Agreement, the Proxy or any of the documents referred to in this Agreement will operate as a waiver of such right, power or privilege, and no single or partial exercise of any such right, power or privilege will preclude any other or further exercise of such right, power or privilege or the exercise of any other right, power or privilege. To the maximum extent permitted by applicable Law, (a) no claim or right arising out of this Agreement, the Proxy or any of the documents referred to in this Agreement can be discharged by one party, in whole or in part, by a waiver or renunciation of the claim or right unless in a written document signed by the other party, (b) no waiver that may be given by a party will be applicable except in the specific instance for which it is given, and (c) no notice to or demand on one party will be deemed to be a waiver of any obligation of that party or of the right of the party giving such notice or demand to take further action without notice or demand as provided in this Agreement, the Proxy or the documents referred to in this Agreement.

7.11 **Governing Law**. This Agreement and all acts and transactions pursuant hereto and the rights and obligations of the parties hereto will be governed by, construed under and enforced in accordance with the laws of the State of Delaware, without giving effect to principles of conflict or choice of laws which would result in the application of the laws of any other jurisdiction.

7.12 **Consent to Jurisdiction**. Any suit, action or proceeding seeking to enforce any provision of, or based on any matter arising out of or in connection with, this Agreement, the Proxy or the transactions contemplated hereby or thereby will be brought exclusively in the United States District Court for the District of Delaware or in the Court of Chancery of the State of Delaware and each of the parties hereto hereby consents to the exclusive jurisdiction of those courts (and of the appropriate appellate courts therefrom) in any suit, action or proceeding and irrevocably waives, to the fullest extent permitted by applicable Law, any objection which it may now or hereafter have to the laying of the venue of any suit, action or proceeding in any of those courts or that any suit, action or proceeding which is brought in any of those courts has been brought in an inconvenient forum. Process in any suit, action or proceeding may be served on any party anywhere in the world, whether within or without the jurisdiction of any of the named courts. Without limiting the foregoing, each party agrees that service of process on it by notice as provided in Section 7.3 will be deemed effective service of process. EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY LAW, ALL RIGHTS TO TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM (WHETHER BASED ON CONTRACT, TORT OR OTHERWISE) ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OF THE TRANSACTIONS CONTEMPLATED HEREBY.

7.13 **Counterparts**. This Agreement may be executed in any number of counterparts, each of which will be deemed to be an original, but all of which, taken together, will constitute one and the same instrument. An electronic copy of a party's signature (including signatures in Adobe PDF or similar format) shall be deemed an original signature for purposes hereof.

7.14 **Expenses**. Except as otherwise provided in this Agreement, all costs and expenses incurred in connection with this Agreement and the transactions contemplated hereby will be paid by the party incurring such expenses.

7.15 **Headings; Construction**. The headings contained in this Agreement are for reference purposes only and will not affect in any way the meaning or interpretation of this Agreement. In this Agreement (a) words denoting the singular include the plural and vice versa, (b) "it" or "its" or words denoting any gender include all genders and (c) the word "including" means "including without limitation," whether or not expressed.

[Signature page follows]

IN WITNESS WHEREOF, the parties hereto have caused this Company Voting Agreement to be duly executed as of the day and year first above written.

PARENT:

PHARMATHENE, INC.
By: _____
Name:
Title:

[Signature page follows]

IN WITNESS WHEREOF, the parties hereto have caused this Company Voting Agreement to be duly executed as of the day and year first above written.

STOCKHOLDERS:

INDIVIDUAL:

(Print Name)

(Signature)

(Jurisdiction of Residence)

By:

PARTNERSHIP, CORPORATION, LLC, TRUST OR OTHER ENTITY:

(Print Name of Entity)

(Signature)

(Print Name)

(Print Title)

(Type of Entity)

(Jurisdiction of Organization)

[Signature Page to Company Voting Agreement]

SCHEDULE A

STOCKHOLDERS

NAME AND ADDRESS OF STOCKHOLDERS	**COMPANY SHARES BENEFICIALLY OWNED**

EXHIBIT A

IRREVOCABLE PROXY

From and after the date hereof and until the Termination Date (as defined below), on which date this irrevocable proxy (the "***proxy***") will terminate and be of no further force or effect, the undersigned stockholder ("***Stockholder***") of Altimmune, Inc., a Delaware corporation (the "***Company***"), hereby irrevocably (to the fullest extent permitted by Section 212 of the Delaware General Corporation Law) grants to, and appoints, PharmAthene, Inc., a Delaware corporation (the "***Parent***"), and any designee of Parent, and each of them individually, as the sole and exclusive attorney and proxy of the undersigned, with full power of substitution and re-substitution, to vote the Subject Shares (as defined in the Voting Agreement) or to issue instructions to the record holder to vote the Subject Shares, or grant a consent or approval in respect of the Subject Shares or issue instructions to the record holder to grant a consent or approval in respect of the Subject Shares, in a manner consistent with Section 2.2 of the Voting Agreement (as defined below). Upon the undersigned's execution of this Proxy, any and all prior proxies given by the undersigned with respect to any Subject Shares relating to the voting rights expressly provided herein are hereby revoked and the undersigned agrees not to grant any subsequent proxies with respect to the Subject Shares relating to such voting rights at any time prior to the Termination Date, on which date this proxy will terminate and be of no further force or effect.

This Proxy is irrevocable, is coupled with an interest and is granted pursuant to that certain Company Voting Agreement (as amended from time to time, the "***Voting Agreement***") of even date herewith, by and among Parent and Stockholder, and is granted in consideration of Parent entering into the Merger Agreement (as defined in the Voting Agreement). As used herein, the term "***Termination Date***," and all capitalized terms used herein and not otherwise defined, will have the meanings set forth in the Voting Agreement. **The Stockholder agrees that this proxy will be irrevocable until the Termination Date, on which date this proxy will terminate and be of no further force or effect, and is coupled with an interest sufficient at law to support an irrevocable proxy and given to Parent as an inducement to enter into the Merger Agreement and, to the extent permitted under applicable law, will be valid and binding on any Person to whom Stockholder may transfer any of his, her or its Subject Shares whether as permitted by or in breach of the Voting Agreement.** The Stockholder hereby ratifies and confirms all that such irrevocable proxy may lawfully do or cause to be done by virtue hereof.

The attorneys and proxies named above, and each of them, are hereby authorized and empowered by the undersigned, at any time prior to the Termination Date, on which date this proxy will terminate and be of no further force or effect, to act as the undersigned's attorney and proxy to vote the Subject Shares, and to exercise all voting and other rights of the undersigned with respect to the Subject Shares (including, without limitation, the power to execute and deliver written consents pursuant to Section 228 of the Delaware General Corporation Law), at every annual, special or adjourned meeting of the stockholders of the Company and in every written consent in lieu of such meeting in a manner consistent with Section 2.2 of the Voting Agreement. Provided, however, that this proxy will not limit the right of any Stockholder to vote at any meeting or to act by written consent in a manner consistent with the Voting Agreement.

This Proxy will be binding upon the heirs, estate, executors, personal representatives, successors and assigns of Stockholder (including any transferee of any of the Subject Shares), and all authority herein conferred or agreed to be conferred will survive the death or incapacity of the Stockholder.

If any provision of this Proxy or any part of any such provision is held under any circumstances to be invalid or unenforceable in any jurisdiction, then (a) such provision or part thereof will, with respect to such circumstances and in such jurisdiction, be deemed amended to conform to applicable laws so as to be valid and enforceable to the fullest possible extent, (b) the invalidity or unenforceability of such provision or part thereof under such circumstances and in such jurisdiction will not affect the validity or enforceability of such provision or part thereof under any other circumstances or in any other jurisdiction, and (c) the invalidity or unenforceability of such provision or part thereof will not affect the validity or enforceability of the remainder of such provision or the validity or enforceability of any other provision of this Proxy. Each provision of this Proxy is separable from every other provision of this Proxy, and each part of each provision of this Proxy is separable from every other part of such provision.

With respect to any Subject Shares that are Beneficially Owned (as defined in the Voting Agreement) by the Stockholder but are not held of record by the Stockholder, the Stockholder shall take all action necessary to cause the record holder of such Subject Shares to grant the irrevocable proxy and take all other actions provided for in this proxy with respect to such Subject Shares.

[Signature page follows.]

Dated: January , 2017

INDIVIDUAL:		PARTNERSHIP, CORPORATION, LLC, TRUST OR OTHER ENTITY:
(Print Name)		(Print Name of Entity)
(Signature)	By:	(Signature)
(Jurisdiction of Residence)		(Print Name)
		(Print Title)
		(Type of Entity)
		(Jurisdiction of Organization)

[Signature Page to Company Voting Agreement]

ANNEX E

FORM OF COMPANY LOCK-UP AGREEMENT

This LOCK-UP AGREEMENT (this "***Agreement***"), dated as of January 18, 2017, is being executed and delivered as of January 18, 2017, by NAME OF STOCKHOLDER ("***Stockholder***") in favor of and for the benefit of PharmAthene, Inc. ("***Parent***").

RECITALS

A. Stockholder is a (i) director or officer of Altimmune, Inc. (the "***Company***") or (ii) a stockholder of Altimmune and an Affiliate of a director or officer of the Company.

B. The Company, Parent, Mustang Merger Sub Corp I Inc., a Delaware corporation and direct, wholly owned subsidiary of Parent ("***Merger Sub Corp***"), Mustang Merger Sub II LLC, a Delaware limited liability company and a direct wholly owned subsidiary of Parent ("***Merger Sub LLC***" and together with Merger Sub Corp, "***Merger Sub***"), and Shareholder Representative Services LLC, solely in its capacity as the representative of the stockholders of the Company, have entered into that certain Agreement and Plan of Merger and Reorganization (as amended from time to time, the "***Merger Agreement***"), dated as of January 18, 2017, pursuant to which Merger Sub Corp will merge with and into the Company ("***Merger 1***"), and immediately thereafter, the Company will merge with and into Merger Sub LLC, with Merger Sub LLC as the surviving entity in such merger ("***Merger 2***" and together with Merger 1, the "***Mergers***"), and Merger Sub LLC will continue as a direct wholly owned subsidiary of Parent.

C. The Merger Agreement contemplates that, upon consummation of the Merger and the consummation of the Post-Closing Private Placement, Stockholder will receive shares of Parent Common Stock in the Mergers (the "***Parent Shares***") and that the Stockholder will be subject to certain restrictions on transfer of such shares as provided herein.

Stockholder, intending to be legally bound, agrees as follows:

1. Defined Terms. Each capitalized term used in this Agreement but not otherwise defined herein shall have the meaning ascribed thereto in the Merger Agreement.

2. Representations and Warranties of Stockholder. Stockholder represents and warrants to Parent as of the date hereof as follows:

(a) Stockholder is the holder and "beneficial owner" (as defined in Rule 13d-3 under the Securities Exchange Act of 1934, as amended) of the number of outstanding shares of common stock of the Company set forth beneath Stockholder's signature on the signature page hereof (the "***Company Shares***"), and Stockholder has good and valid title to the Company Shares, free and clear of any liens, pledges, security interests, adverse claims, equities, options, proxies, charges, encumbrances or restrictions of any nature, other than as otherwise restricted under the Securities Act of 1933, as amended (the "***Securities Act***") and other applicable securities laws and regulations, or under the Amended and Restated Investor Rights Agreement dated March 10, 2015 by and among the Company and the stockholders of the Company party thereto.

(b) Stockholder has the sole right to vote and to dispose of the Company Shares.

(c) Stockholder has read this Agreement and, to the extent Stockholder felt necessary, has discussed with counsel the limitations imposed on Stockholder's ability to sell, transfer or otherwise dispose of the Parent Shares. Stockholder fully understands the limitations this Agreement places upon Stockholder's ability to sell, transfer or otherwise dispose of the Parent Shares.

3. Lock-Up.

(a) Stockholder will not, during the period commencing on the date of the Effective Time of Merger 1 and, subject to the terms set forth herein, ending 180 days after the Effective Time of Merger 1 (the "***Lock-up Period***"), (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any Parent Shares, or (2) enter into any swap or other

arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the Parent Shares, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of the Parent Shares, in cash or otherwise.

(b) Notwithstanding the foregoing, Stockholder may transfer Parent Shares (i) to Affiliates (including, for the avoidance of doubt, if Stockholder is a corporation, partnership, limited liability company, investment fund, trust or other business entity, such investment funds or other business entities controlled or managed by, or that controls or manages, or under common management with, the Stockholder) or charitable organizations; (ii) if Stockholder is an individual, to any member of Stockholder's immediate family, or to a trust for the benefit of Stockholder or any member of Stockholder's immediate family for estate planning purposes or for the purposes of personal tax planning, or upon the death of Stockholder, by will or intestacy; (iii) if Stockholder is a corporation, partnership, limited liability company, investment fund or other business entity, as part of a disposition, transfer or distribution by the Stockholder to its equity holders; (iv) if the Stockholder is a trust, to a trustor or beneficiary of the trust; or (v) to a nominee or custodian of a Person or entity to whom a disposition or transfer would be permissible under this clause (b); provided, however, that any such transfer shall be permitted under this clause (b) only if, as a precondition to such transfer, such donee, transferee or distributee agrees in writing to be bound by all of the terms of this Agreement.

(c) For the avoidance of doubt, the restrictions in this Agreement shall apply only to (i) the Parent Shares received in the Mergers, (ii) Parent Shares issued upon exercise of options to acquire Parent Shares outstanding immediately after the Effective Time of Merger 1, and (iii) Parent Shares issued in the Post-Closing Private Placement and no other security of Parent or any Affiliate thereof.

4. Stop Transfer Instructions. Stockholder acknowledges and agrees that stop transfer instructions will be given to Parent's transfer agent with respect to the Parent Shares until the expiration of the Lock-Up Period.

5. Independence of Obligations. The covenants and obligations of Stockholder set forth in this Agreement shall be construed as independent of any other agreement or arrangement between Stockholder, on the one hand, and the Company or Parent, on the other hand. The existence of any claim or cause of action by Stockholder against the Company or Parent shall not constitute a defense to the enforcement of any of such covenants or obligations against Stockholder.

6. Specific Performance. Stockholder acknowledges that Parent could be damaged irreparably if any of the provisions of this Agreement are not performed in accordance with their specific terms and that any breach of this Agreement by Stockholder could not be adequately compensated by monetary damages. Accordingly, Stockholder agrees that (a) it will waive, in any action for specific performance, the defense of adequacy of a remedy at law, and (b) in addition to any other right or remedy to which Parent may be entitled, at law or in equity, Parent will be entitled to seek to enforce any provision of this Agreement by a decree of specific performance and to seek temporary, preliminary and permanent injunctive relief to prevent breaches or threatened breaches of any of the provisions of this Agreement, without posting any bond or other undertaking.

7. Notices. All notices and other communications hereunder shall be in writing (including email or similar writing) and must be given:

(a) If to Parent, to:

PharmAthene, Inc.
One Park Place, Suite 450
Annapolis, Maryland 21401
Attention: John Gill
Email: john.gill@pharmathene.com

with a copy (which will not constitute notice) to:

Dentons US LLP
1221 Avenue of the Americas
New York, NY 10020
Attention: Jeffrey Baumel
Ilan Katz
Email: jeffrey.baumel@dentons.com
ilan.katz@dentons.com

and with a copy (which will not constitute notice), following the Closing, to:

Proskauer Rose LLP
One International Place
Boston, MA 02110
Attention: Ori Solomon
Email: osolomon@proskauer.com

(b) If to Stockholder, to

[ ]
[ ]
Attention:
Email:

or such other physical address or email address as a party may hereafter specify for the purpose by notice to the other parties hereto. Each notice, consent, waiver or other communication under this Agreement will be effective only (i) if given by email, when the email is transmitted to the email address specified in this Section 7 or (ii) if given by overnight courier or personal delivery when delivered at the physical address specified in this Section 7.

8. Severability. Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction will, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without affecting the validity or enforceability of the remaining provisions hereof. Any such prohibition or unenforceability in any jurisdiction will not invalidate or render unenforceable such provision in any other jurisdiction. If any provision of this Agreement is so broad as to be unenforceable, the provision will be interpreted to be only so broad as is enforceable.

9. Governing Law. This Agreement and all acts and transactions pursuant hereto and the rights and obligations of the parties hereto will be governed by, construed under and enforced in accordance with the laws of the State of Delaware, without giving effect to principles of conflict or choice of laws which would result in the application of the laws of any other jurisdiction.

10. Consent to Jurisdiction. Any suit, action or proceeding seeking to enforce any provision of, or based on any matter arising out of or in connection with, this Agreement or the transactions contemplated hereby or thereby will be brought exclusively in the United States District Court for the District of Delaware or in the Court of Chancery of the State of Delaware, and each of the parties hereto hereby consents to the exclusive jurisdiction of those courts (and of the appropriate appellate courts therefrom) in any suit, action or proceeding and irrevocably waives, to the fullest extent permitted by applicable Law, any objection which it may now or hereafter have to the laying of the venue of any suit, action or proceeding in any of those courts or that any suit, action or proceeding which is brought in any of those courts has been brought in an inconvenient forum. Process in any suit, action or proceeding may be served on any party anywhere in the world, whether within or without the jurisdiction of any of the named courts. Without limiting the foregoing, each party agrees that service of process on it by notice as provided in Section 7 will be deemed effective service of process. EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY LAW, ALL RIGHTS TO TRIAL BY JURY IN ANY ACTION,

PROCEEDING OR COUNTERCLAIM (WHETHER BASED ON CONTRACT, TORT OR OTHERWISE) ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OF THE TRANSACTIONS CONTEMPLATED HEREBY.

11. Waiver. The rights and remedies of the parties to this Agreement are cumulative and not alternative. Neither any failure nor any delay by a party in exercising any right, power or privilege under this Agreement or any of the documents referred to in this Agreement will operate as a waiver of such right, power or privilege, and no single or partial exercise of any such right, power or privilege will preclude any other or further exercise of such right, power or privilege or the exercise of any other right, power or privilege. To the maximum extent permitted by applicable Law, (a) no claim or right arising out of this Agreement or any of the documents referred to in this Agreement can be discharged by one party, in whole or in part, by a waiver or renunciation of the claim or right unless in a written document signed by the other party, (b) no waiver that may be given by a party will be applicable except in the specific instance for which it is given, and (c) no notice to or demand on one party will be deemed to be a waiver of any obligation of that party or of the right of the party giving such notice or demand to take further action without notice or demand as provided in this Agreement or the documents referred to in this Agreement.

12. Effectiveness; Termination. This Agreement shall only be effective upon the Effective Time of Merger 1 and shall automatically terminate in the event of the termination of the Merger Agreement for any reason.

13. Further Assurances. Stockholder shall execute and/or cause to be delivered to Parent such instruments and other documents and shall take such other actions as Parent may reasonably request for the purpose of carrying out the transactions contemplated by this Agreement.

14. Entire Agreement and Modification. This Agreement, the Merger Agreement and any other documents delivered by the parties in connection herewith constitute the entire agreement among the parties with respect to the subject matter hereof and supersede all prior agreements and understandings, both written and oral, between the parties with respect to its subject matter and constitute (along with the documents delivered pursuant to this Agreement) a complete and exclusive statement of the terms of the agreement between the parties with respect to its subject matter. This Agreement may not be amended, supplemented or otherwise modified except by a written document executed by the party against whose interest the modification will operate. The parties will not enter into any other agreement inconsistent with the terms and conditions of this Agreement and the Merger Agreement, or that addresses any of the subject matters addressed in this Agreement and the Merger Agreement.

15. Non-Exclusivity. The rights and remedies of Parent hereunder are not exclusive of or limited by any other rights or remedies which Parent may have, whether at law, in equity, by contract or otherwise, all of which shall be cumulative (and not alternative).

16. Expenses. Except as otherwise provided in this Agreement, all costs and expenses incurred in connection with this Agreement and the transactions contemplated hereby will be paid by the party incurring such expenses.

17. Assignment. This Agreement and all obligations of Stockholder hereunder are personal to Stockholder and may not be transferred or delegated by Stockholder at any time, except in accordance with Section 2(b) of this Agreement. Parent may freely assign any or all of its rights under this Agreement, in whole or in part, to any successor entity without obtaining the consent or approval of Stockholder.

18. Binding Nature. Subject to Section 17, this Agreement will inure to the benefit of Parent and its successors and assigns and will be binding upon Stockholder and Stockholder's representatives, executors, administrators, estate, heirs, successors and assigns.

19. Survival. Each of the representations, warranties, covenants and obligations contained in this Agreement shall survive the consummation of the Mergers.

20. Counterparts. This Agreement may be executed in any number of counterparts, each of which will be deemed to be an original, but all of which, taken together, will constitute one and the same instrument. An

electronic copy of a party's signature (including signatures in Adobe PDF or similar format) shall be deemed an original signature for purposes hereof.

21. Headings; Construction. The headings contained in this Agreement are for reference purposes only and will not affect in any way the meaning or interpretation of this Agreement. In this Agreement (a) words denoting the singular include the plural and vice versa, (b) "it" or "its" or words denoting any gender include all genders and (c) the word "including" means "including without limitation," whether or not expressed.

(Signature page follows)

IN WITNESS WHEREOF, the parties hereto have caused this Lock-Up Agreement to be duly executed as of the day and year first above written.

THE COMPANY

PHARMATHENE, INC.

By: _____

Name:

Title:

IN WITNESS WHEREOF, the parties hereto have caused this Lock-Up Agreement to be duly executed as of the day and year first above written.

STOCKHOLDER:

INDIVIDUAL:

(Print Name)

(Signature)

(Jurisdiction of Residence)

By:

PARTNERSHIP, CORPORATION, LLC, TRUST OR OTHER ENTITY:

(Print Name of Entity)

(Signature)

(Print Name)

(Print Title)

(Type of Entity)

(Jurisdiction of Organization)

Annex FA

HOULIHAN LOKEY

January 18, 2017

The Board of Directors of PharmAthene, Inc.
One Park Place
Suite 450
Annapolis, Maryland 21404

Dear Board of Directors:

We understand that PharmAthene, Inc. (the "Company"), Mustang Merger Sub Corp I Inc., a wholly-owned subsidiary of the Company ("Merger Sub Corp."), Mustang Merger Sub II LLC, a wholly-owned subsidiary of the Company ("Merger Sub LLC"), and Altimmune, Inc. ("Altimmune"), propose to enter into the Merger Agreement (defined below) pursuant to which, among other things, Merger Sub Corp will be merged with and into the Altimmune ("Merger 1") and, immediately thereafter, Altimmune will merge with and into Merger Sub LLC ("Merger 2" and, together with Merger 1, the "Mergers") such that, in connection with the Mergers, (a) each outstanding (i) share of Class A Common Stock, $0.01 par value per share, and Class B Common Stock, $0.01 par value per share (collectively, "Altimmune Common Stock"), of Altimmune, and (ii) share of Series B Preferred Stock, $0.01 par value per share ("Altimmune Preferred Stock" and, together with Altimmune Common Stock, "Altimmune Capital Stock") will be converted into the right to receive a number of shares (the "Exchange Ratio") of common stock, par value $0.001 per share ("Company Common Stock"), of the Company, subject to certain adjustments as provided for in the Merger Agreement (as to which adjustments we express no opinion), such that the holders of outstanding equity of Altimmune (including the holders of equity to be issued by Altimmune in the private placement of convertible securities of Altimmune to raise gross proceeds of no less than $3.5 million to be received by Altimmune immediately prior to the consummation of Merger 1 (the "Altimmune Private Placement"), and also including holders of Altimmune stock options and holders of warrants to purchase Altimmune Capital Stock) immediately prior to consummation of Merger 1 will own 58.2% of the outstanding equity of the Company immediately following the consummation of Merger 1 and the holders of equity of the Company immediately prior to the consummation of Merger 1 will own 41.8% of the outstanding equity of the Company immediately following consummation of Merger 1 and (b) Merger Sub LLC will continue as a wholly owned subsidiary of the Company. In addition, no later than 135 days following the consummation of the Mergers, the Company will consummate a private placement of Company Common Stock to raise gross proceeds of no less than $5 million, at either (i) in the event that the Company consummates a public offering of Company Common Stock within 135 days of the consummation of the Mergers (the "Follow On Offering"), the per share price of the Follow On Offering to the purchasers of Company Common Stock in the Follow On Offering, or (ii) in the event that such private placement is consummated on the 135th day following the consummation of the Mergers, the per share price implied by a Company Common Stock aggregate equity valuation of the greater of (x) $90 million (the "Minimum Valuation Floor") and (y) the aggregate equity value of Company Common Stock implied by the arithmetic mean of the volume weighted average price of Company Common Stock during the 30 day period ending on the third business day prior to the consummation of such private placement, such that, in the event of the consummation of such private placement pursuant to clause (ii) above, the percentage ownership of Company Common Stock by the holders of Company Common Stock immediately prior to Merger 1, pro forma for such private placement, will be 39.6% (the "Minimum Ownership Percentage"; and such private placement, the "Post Closing Private Placement" and, together with the Altimmune Private Placement, the "Private Placements"). The Private Placements, together with the Mergers, are referred to herein as the "Transaction".

The Board of Directors of PharmAthene, Inc.
January 18, 2017

The Board of Directors of the Company (the "Board") has requested that Houlihan Lokey Capital, Inc. ("Houlihan Lokey") provide an opinion (the "Opinion") to the Board as to whether, as of the date hereof, the Exchange Ratio provided for in Merger 1 pursuant to the Merger Agreement is fair to the Company from a financial point of view.

In connection with this Opinion, we have made such reviews, analyses and inquiries as we have deemed necessary and appropriate under the circumstances. Among other things, we have:

1. reviewed the following agreements and documents:

   a. execution version of the Agreement and Plan of Merger and Reorganization, dated as of January 18, 2017, by and among the Company, Merger Sub Corp, Merger Sub LLC, Altimmune and Shareholder Representative Services LLC, as representative of the holders of Altimmune Capital Stock immediately prior to consummation of Merger 1, together with related disclosure schedules (the "Merger Agreement"); and

   b. draft dated January 11, 2017 of the Convertible Promissory Note Agreement by and among Altimmune and the purchasers listed therein, together with the form of note (the "Private Placement Agreement");

2. reviewed certain publicly available business and financial information relating to the Company and Altimmune that we deemed to be relevant;

3. reviewed certain information relating to the historical, current and future operations, financial condition and prospects of the Company and Altimmune made available to us by the Company and Altimmune, including (a) financial projections prepared by the managements of the Company and Altimmune relating to the Company and Altimmune, for the years ending 2016 through 2019 in the case of the Company, and the years ending 2016 through 2018 in the case of Altimmune, and (b) certain forecasts and estimates of potential cost savings, operating efficiencies and other synergies expected to result from the Transaction, all as prepared by the management of the Company (the "Synergies");

4. spoken with certain members of the managements of the Company and the Altimmune regarding the respective businesses, operations, financial condition and prospects of the Company and Altimmune, the Transaction and related matters, including the potential for an equity offering by the Company pre- and post-Mergers, together with certain other strategic benefits anticipated by the management of the Company to result from the Transaction;

5. reviewed certain reports prepared for the Company by third party consultants regarding certain technical aspects of the product candidates of Altimmune currently in development;

6. compared certain operating characteristics of each of the Company and the Altimmune with those of (a) certain public companies that we deemed to be relevant, and (b) certain companies that issued equity securities in initial public offerings that we deemed to be relevant;

7. considered the publicly available operating characteristics of certain target companies involved in transactions that we deemed to be relevant;

8. reviewed the current and historical market prices and trading volume for Company Common Stock; and

9. conducted such other financial studies, analyses and inquiries and considered such other information and factors as we deemed appropriate.

We have relied upon and assumed, without independent verification, the accuracy and completeness of all data, material and other information furnished, or otherwise made available, to us, discussed with or reviewed by us, or publicly available, and do not assume any responsibility with respect to such data, material and other

information. In addition, managements of the Company and Altimmune have advised us, and we have assumed, that the financial projections reviewed by us have been reasonably prepared in good faith on bases reflecting the best currently available estimates and judgments of such managements as to the future financial results and condition of the Company and Altimmune, and we express no opinion with respect to such projections or the assumptions on which they are based. In particular, managements of the Company and Altimmune have advised us, and we have assumed, that each management's expectations regarding the (i) development schedule for existing product candidates and future products, (ii) costs associated with such development (including the risks associated with the successful development, testing, receipt of government approval and marketing of such products and product candidates) and (iii) potential for, and timing of, any commercial opportunities for such product candidates and future products, in each case, have been reasonably developed, in good faith, on bases reflecting the best currently available estimates and judgments of such managements as to such matters, and we express no opinion with respect to such matters or any assumptions on which they are based. Furthermore, upon the advice of the management of the Company, we have assumed that the estimated Synergies reviewed by us have been reasonably prepared in good faith on bases reflecting the best currently available estimates and judgments of the management of the Company and that the Synergies will be realized in the amounts and the time periods indicated thereby, and we express no opinion with respect to such Synergies or the assumptions on which they are based. We have relied upon and assumed, without independent verification, that there has been no change in the business, assets, liabilities, financial condition, results of operations, cash flows or prospects of the Company or Altimmune since the respective dates of the most recent financial statements and other information, financial or otherwise, provided to us that would be material to our analyses or this Opinion, and that there is no information or any facts that would make any of the information reviewed by us incomplete or misleading.

In reaching our conclusion hereunder, (i) we did not perform a discounted cash flow analysis because, for each of the Company and Altimmune, we were not provided with financial information and financial projections that contained sufficient financial metrics to be able to perform such analyses (in particular, such projections were not of a sufficient length so as to reflect any revenue expected to be generated by the development of each company's product candidates), (ii) our comparisons of certain public companies and certain transactions did not consist of a comparison of certain financial metrics of such companies and transactions with those of the Company, Altimmune and the Mergers (in light of the lack of financial metrics for each of the Company and Altimmune). Rather, our comparisons related to a review of the enterprise and equity values of such companies and transactions so as to form a view as to the possible enterprise and equity values of each of the Company and Altimmune, and (iii) we analyzed the impact of the Transaction on the Company based on the Minimum Ownership Percentage, as opposed to the Exchange Ratio. Accordingly, we have assumed that the Follow On Offering, if any, would be priced at an aggregate implied equity valuation of Company Common Stock of no less than the Minimum Valuation Floor. We express no opinion as to the fairness of the Exchange Ratio in the event that any Follow On Offering is priced at an aggregate implied equity valuation of Company Common Stock of less than the Minimum Valuation Floor, such that the percentage ownership of Company Common Stock by the holders of Company Common Stock immediately prior to Merger 1, pro forma for such private placement, would be less than the Minimum Ownership Percentage.

We have relied upon and assumed, without independent verification, that (a) the representations and warranties of all parties to the agreements identified in item 1 above and all other related documents and instruments that are referred to therein are true and correct, (b) each party to all such agreements and such other related documents and instruments will fully and timely perform all of the covenants and agreements required to be performed by such party, (c) all conditions to the consummation of the Transaction will be satisfied without waiver thereof, including, without limitation, the consummation of the Private Placements, and (d) the Transaction will be consummated in a timely manner in accordance with the terms described in all such agreements and such other related documents and instruments, without any amendments or modifications thereto. We have also assumed, with the consent of the Company, that the Mergers will qualify as tax-free transactions. We have relied upon and assumed, without independent verification, that (i) the

Transaction will be consummated in a manner that complies in all respects with all applicable federal and state statutes, rules and regulations, and (ii) all governmental, regulatory, and other consents and approvals necessary for the consummation of the Transaction will be obtained and that no delay, limitations, restrictions or conditions will be imposed or amendments, modifications or waivers made that would result in the disposition of any assets of the Company or Altimmune, or otherwise have an effect on the Transaction, the Company or Altimmune or any expected benefits of the Transaction that would be material to our analyses or this Opinion. We have also relied upon and assumed, without independent verification, at the direction of the Company, that any adjustments to the Exchange Ratio pursuant to the Agreement will not be material to our analyses or this Opinion. In addition, we have relied upon and assumed, without independent verification, that the final forms of any draft documents identified above will not differ in any material respect from the drafts of said documents.

Furthermore, in connection with this Opinion, we have not been requested to make, and have not made, any physical inspection or independent appraisal or evaluation of any of the assets, properties or liabilities (fixed, contingent, derivative, off-balance-sheet or otherwise) of the Company, Altimmune or any other party, nor were we provided with any such appraisal or evaluation. We did not estimate, and express no opinion regarding, the liquidation value of any entity or business. We have undertaken no independent analysis of any potential or actual litigation, regulatory action, possible unasserted claims or other contingent liabilities, to which the Company or Altimmune is or may be a party or is or may be subject, or of any governmental investigation of any possible unasserted claims or other contingent liabilities to which the Company or Altimmune is or may be a party or is or may be subject.

We have not been requested to, and did not, (a) initiate or participate in any discussions or negotiations with, or solicit any indications of interest from, third parties with respect to the Transaction, the securities, assets, businesses or operations of the Company or any other party, or any alternatives to the Transaction, (b) negotiate the terms of the Transaction, or (c) advise the Board or any other party with respect to alternatives to the Transaction. This Opinion is necessarily based on financial, economic, market and other conditions as in effect on, and the information made available to us as of, the date hereof. We have not undertaken, and are under no obligation, to update, revise, reaffirm or withdraw this Opinion, or otherwise comment on or consider events occurring or coming to our attention after the date hereof. We are not expressing any opinion as to what the value of the Company Common Stock actually will be when issued pursuant to Merger 1 or the price or range of prices at which the Company Common Stock may be purchased or sold, or otherwise be transferable, at any time. We have assumed that the Company Common Stock to be issued in Merger 1 to the holders of Altimmune Capital Stock will be listed on the NYSE MKT.

This Opinion is furnished for the use of the Board (in its capacity as such) in connection with its evaluation of the Transaction and may not be used for any other purpose without our prior written consent. This Opinion is not intended to be, and does not constitute, a recommendation to the Board, any security holder or any other party as to how to act or vote with respect to any matter relating to the Transaction or otherwise.

In the ordinary course of business, certain of our employees and affiliates, as well as investment funds in which they may have financial interests or with which they may co-invest, may acquire, hold or sell, long or short positions, or trade, in debt, equity, and other securities and financial instruments (including loans and other obligations) of, or investments in, the Company or any other party that may be involved in the Transaction and their respective affiliates or any currency or commodity that may be involved in the Transaction.

Houlihan Lokey and certain of its affiliates may provide investment banking, financial advisory and/or other financial or consulting services to the Company, AltImmune, other participants in the Transaction or certain of their respective affiliates in the future, for which Houlihan Lokey and its affiliates may receive compensation. Furthermore, in connection with bankruptcies, restructurings, and similar matters, Houlihan Lokey and certain of its affiliates may have in the past acted, may currently be acting and may in the future act as financial advisor to debtors, creditors, equity holders, trustees, agents and other interested parties

The Board of Directors of PharmAthene, Inc.
January 18, 2017

(including, without limitation, formal and informal committees or groups of creditors) that may have included or represented and may include or represent, directly or indirectly, or may be or have been adverse to, the Company, AltImmune, other participants in the Transaction or certain of their respective affiliates, for which advice and services Houlihan Lokey and its affiliates have received and may receive compensation.

Houlihan Lokey will receive a fee for rendering this Opinion, which is not contingent upon the successful completion of the Transaction. The Company has agreed to reimburse certain of our expenses and to indemnify us and certain related parties for certain potential liabilities arising out of our engagement.

We have not been requested to opine as to, and this Opinion does not express an opinion as to or otherwise address, among other things: (i) the underlying business decision of the Board, the Company, Altimmune, their respective security holders or any other party to proceed with or effect the Transaction, (ii) the terms of any arrangements, understandings, agreements or documents related to, or the form, structure or any other portion or aspect of, the Transaction or otherwise (other than the Exchange Ratio to the extent expressly specified herein), (iii) the fairness of any portion or aspect of the Transaction to the holders of any class of securities, creditors or other constituencies of the Company, Altimmune or to any other party, except if and only to the extent expressly set forth in the last sentence of this Opinion, (iv) the relative merits of the Transaction as compared to any alternative business strategies or transactions that might be available for the Company, Altimmune or any other party, (v) the fairness of any portion or aspect of the Transaction to any one class or group of the Company's, Altimmune or any other party's security holders or other constituents vis-à-vis any other class or group of the Company's, Altimmune's or such other party's security holders or other constituents (including, without limitation, the allocation of any consideration amongst or within such classes or groups of security holders or other constituents), (vi) whether or not the Company, Altimmune, their respective security holders or any other party is receiving or paying reasonably equivalent value in the Transaction, (vii) the solvency, creditworthiness or fair value of the Company, Altimmune or any other participant in the Transaction, or any of their respective assets, under any applicable laws relating to bankruptcy, insolvency, fraudulent conveyance or similar matters, or (viii) the fairness, financial or otherwise, of the amount, nature or any other aspect of any compensation to or consideration payable to or received by any officers, directors or employees of any party to the Transaction, any class of such persons or any other party, relative to the Exchange Ratio or otherwise. Furthermore, no opinion, counsel or interpretation is intended in matters that require legal, regulatory, accounting, insurance, tax or other similar professional advice. It is assumed that such opinions, counsel or interpretations have been or will be obtained from the appropriate professional sources. Furthermore, we have relied, with the consent of the Board, on the assessments by the Company and its advisors, as to all legal, regulatory, accounting, insurance and tax matters with respect to the Company, Altimmune and the Transaction or otherwise. The issuance of this Opinion was approved by a committee authorized to approve opinions of this nature.

Based upon and subject to the foregoing, and in reliance thereon, it is our opinion that, as of the date hereof, the Exchange Ratio provided for in Merger 1 pursuant to the Merger Agreement is fair to the Company from a financial point of view.

Very truly yours,

HOULIHAN LOKEY CAPITAL, INC.

ANNEX G

SECTION 262 OF THE DELAWARE GENERAL CORPORATION LAW

§262. Appraisal rights.

(a) Any stockholder of a corporation of this State who holds shares of stock on the date of the making of a demand pursuant to subsection (d) of this section with respect to such shares, who continuously holds such shares through the effective date of the merger or consolidation, who has otherwise complied with subsection (d) of this section and who has neither voted in favor of the merger or consolidation nor consented thereto in writing pursuant to §228 of this title shall be entitled to an appraisal by the Court of Chancery of the fair value of the stockholder's shares of stock under the circumstances described in subsections (b) and (c) of this section. As used in this section, the word "stockholder" means a holder of record of stock in a corporation; the words "stock" and "share" mean and include what is ordinarily meant by those words; and the words "depository receipt" mean a receipt or other instrument issued by a depository representing an interest in 1 or more shares, or fractions thereof, solely of stock of a corporation, which stock is deposited with the depository.

(b) Appraisal rights shall be available for the shares of any class or series of stock of a constituent corporation in a merger or consolidation to be effected pursuant to §251 (other than a merger effected pursuant to §251(g) of this title and, subject to paragraph (b)(3) of this section, §251(h) of this title), §252, §254, §255, §256, §257, §258, §263 or §264 of this title:

(1) Provided, however, that, except as expressly provided in §363(b) of this title, no appraisal rights under this section shall be available for the shares of any class or series of stock, which stock, or depository receipts in respect thereof, at the record date fixed to determine the stockholders entitled to receive notice of the meeting of stockholders to act upon the agreement of merger or consolidation, were either: (i) listed on a national securities exchange or (ii) held of record by more than 2,000 holders; and further provided that no appraisal rights shall be available for any shares of stock of the constituent corporation surviving a merger if the merger did not require for its approval the vote of the stockholders of the surviving corporation as provided in §251(f) of this title.

(2) Notwithstanding paragraph (b)(1) of this section, appraisal rights under this section shall be available for the shares of any class or series of stock of a constituent corporation if the holders thereof are required by the terms of an agreement of merger or consolidation pursuant to §§251, 252, 254, 255, 256, 257, 258, 263 and 264 of this title to accept for such stock anything except:

a. Shares of stock of the corporation surviving or resulting from such merger or consolidation, or depository receipts in respect thereof;

b. Shares of stock of any other corporation, or depository receipts in respect thereof, which shares of stock (or depository receipts in respect thereof) or depository receipts at the effective date of the merger or consolidation will be either listed on a national securities exchange or held of record by more than 2,000 holders;

c. Cash in lieu of fractional shares or fractional depository receipts described in the foregoing paragraphs (b)(2)a. and b. of this section; or

d. Any combination of the shares of stock, depository receipts and cash in lieu of fractional shares or fractional depository receipts described in the foregoing paragraphs (b)(2)a., b. and c. of this section.

(3) In the event all of the stock of a subsidiary Delaware corporation party to a merger effected under §251(h), §253 or §267 of this title is not owned by the parent immediately prior to the merger, appraisal rights shall be available for the shares of the subsidiary Delaware corporation.

(4) In the event of an amendment to a corporation's certificate of incorporation contemplated by §363(a) of this title, appraisal rights shall be available as contemplated by §363(b) of this title, and the procedures of this section, including those set forth in subsections (d) and (e) of this section, shall apply

as nearly as practicable, with the word “amendment” substituted for the words “merger or consolidation”, and the word “corporation” substituted for the words “constituent corporation” and/or “surviving or resulting corporation”.

(c) Any corporation may provide in its certificate of incorporation that appraisal rights under this section shall be available for the shares of any class or series of its stock as a result of an amendment to its certificate of incorporation, any merger or consolidation in which the corporation is a constituent corporation or the sale of all or substantially all of the assets of the corporation. If the certificate of incorporation contains such a provision, the provisions of this section, including those set forth in subsections (d), (e) and (g) of this section, shall apply as nearly as is practicable.

(d) Appraisal rights shall be perfected as follows:

(1) If a proposed merger or consolidation for which appraisal rights are provided under this section is to be submitted for approval at a meeting of stockholders, the corporation, not less than 20 days prior to the meeting, shall notify each of its stockholders who was such on the record date for notice of such meeting (or such members who received notice in accordance with §255(c) of this title) with respect to shares for which appraisal rights are available pursuant to subsection (b) or (c) of this section that appraisal rights are available for any or all of the shares of the constituent corporations, and shall include in such notice a copy of this section and, if 1 of the constituent corporations is a nonstock corporation, a copy of §114 of this title. Each stockholder electing to demand the appraisal of such stockholder’s shares shall deliver to the corporation, before the taking of the vote on the merger or consolidation, a written demand for appraisal of such stockholder’s shares. Such demand will be sufficient if it reasonably informs the corporation of the identity of the stockholder and that the stockholder intends thereby to demand the appraisal of such stockholder’s shares. A proxy or vote against the merger or consolidation shall not constitute such a demand. A stockholder electing to take such action must do so by a separate written demand as herein provided. Within 10 days after the effective date of such merger or consolidation, the surviving or resulting corporation shall notify each stockholder of each constituent corporation who has complied with this subsection and has not voted in favor of or consented to the merger or consolidation of the date that the merger or consolidation has become effective; or

(2) If the merger or consolidation was approved pursuant to §228, §251(h), §253, or §267 of this title, then either a constituent corporation before the effective date of the merger or consolidation or the surviving or resulting corporation within 10 days thereafter shall notify each of the holders of any class or series of stock of such constituent corporation who are entitled to appraisal rights of the approval of the merger or consolidation and that appraisal rights are available for any or all shares of such class or series of stock of such constituent corporation, and shall include in such notice a copy of this section and, if 1 of the constituent corporations is a nonstock corporation, a copy of §114 of this title. Such notice may, and, if given on or after the effective date of the merger or consolidation, shall, also notify such stockholders of the effective date of the merger or consolidation. Any stockholder entitled to appraisal rights may, within 20 days after the date of mailing of such notice or, in the case of a merger approved pursuant to §251(h) of this title, within the later of the consummation of the offer contemplated by §251(h) of this title and 20 days after the date of mailing of such notice, demand in writing from the surviving or resulting corporation the appraisal of such holder’s shares. Such demand will be sufficient if it reasonably informs the corporation of the identity of the stockholder and that the stockholder intends thereby to demand the appraisal of such holder’s shares. If such notice did not notify stockholders of the effective date of the merger or consolidation, either (i) each such constituent corporation shall send a second notice before the effective date of the merger or consolidation notifying each of the holders of any class or series of stock of such constituent corporation that are entitled to appraisal rights of the effective date of the merger or consolidation or (ii) the surviving or resulting corporation shall send such a second notice to all such holders on or within 10 days after such effective date; provided, however, that if such second notice is sent more than 20 days following the sending of the first notice or, in the case of a merger approved pursuant to §251(h) of this title, later than the later of the consummation of the offer contemplated by §251(h) of this title and 20 days following the sending of the first notice, such second notice need only be sent to each stockholder who is entitled to appraisal rights and who has demanded appraisal of such holder’s shares in accordance with this subsection. An affidavit of the secretary or

assistant secretary or of the transfer agent of the corporation that is required to give either notice that such notice has been given shall, in the absence of fraud, be prima facie evidence of the facts stated therein. For purposes of determining the stockholders entitled to receive either notice, each constituent corporation may fix, in advance, a record date that shall be not more than 10 days prior to the date the notice is given, provided, that if the notice is given on or after the effective date of the merger or consolidation, the record date shall be such effective date. If no record date is fixed and the notice is given prior to the effective date, the record date shall be the close of business on the day next preceding the day on which the notice is given.

(e) Within 120 days after the effective date of the merger or consolidation, the surviving or resulting corporation or any stockholder who has complied with subsections (a) and (d) of this section hereof and who is otherwise entitled to appraisal rights, may commence an appraisal proceeding by filing a petition in the Court of Chancery demanding a determination of the value of the stock of all such stockholders. Notwithstanding the foregoing, at any time within 60 days after the effective date of the merger or consolidation, any stockholder who has not commenced an appraisal proceeding or joined that proceeding as a named party shall have the right to withdraw such stockholder's demand for appraisal and to accept the terms offered upon the merger or consolidation. Within 120 days after the effective date of the merger or consolidation, any stockholder who has complied with the requirements of subsections (a) and (d) of this section hereof, upon written request, shall be entitled to receive from the corporation surviving the merger or resulting from the consolidation a statement setting forth the aggregate number of shares not voted in favor of the merger or consolidation and with respect to which demands for appraisal have been received and the aggregate number of holders of such shares. Such written statement shall be mailed to the stockholder within 10 days after such stockholder's written request for such a statement is received by the surviving or resulting corporation or within 10 days after expiration of the period for delivery of demands for appraisal under subsection (d) of this section hereof, whichever is later. Notwithstanding subsection (a) of this section, a person who is the beneficial owner of shares of such stock held either in a voting trust or by a nominee on behalf of such person may, in such person's own name, file a petition or request from the corporation the statement described in this subsection.

(f) Upon the filing of any such petition by a stockholder, service of a copy thereof shall be made upon the surviving or resulting corporation, which shall within 20 days after such service file in the office of the Register in Chancery in which the petition was filed a duly verified list containing the names and addresses of all stockholders who have demanded payment for their shares and with whom agreements as to the value of their shares have not been reached by the surviving or resulting corporation. If the petition shall be filed by the surviving or resulting corporation, the petition shall be accompanied by such a duly verified list. The Register in Chancery, if so ordered by the Court, shall give notice of the time and place fixed for the hearing of such petition by registered or certified mail to the surviving or resulting corporation and to the stockholders shown on the list at the addresses therein stated. Such notice shall also be given by 1 or more publications at least 1 week before the day of the hearing, in a newspaper of general circulation published in the City of Wilmington, Delaware or such publication as the Court deems advisable. The forms of the notices by mail and by publication shall be approved by the Court, and the costs thereof shall be borne by the surviving or resulting corporation.

(g) At the hearing on such petition, the Court shall determine the stockholders who have complied with this section and who have become entitled to appraisal rights. The Court may require the stockholders who have demanded an appraisal for their shares and who hold stock represented by certificates to submit their certificates of stock to the Register in Chancery for notation thereon of the pendency of the appraisal proceedings; and if any stockholder fails to comply with such direction, the Court may dismiss the proceedings as to such stockholder. If immediately before the merger or consolidation the shares of the class or series of stock of the constituent corporation as to which appraisal rights are available were listed on a national securities exchange, the Court shall dismiss the proceedings as to all holders of such shares who are otherwise entitled to appraisal rights unless (1) the total number of shares entitled to appraisal exceeds 1% of the outstanding shares of the class or series eligible for appraisal, (2) the value of the consideration provided in the merger or consolidation for such total number of shares exceeds $1 million, or (3) the merger was approved pursuant to §253 or §267 of this title.

(h) After the Court determines the stockholders entitled to an appraisal, the appraisal proceeding shall be conducted in accordance with the rules of the Court of Chancery, including any rules specifically governing appraisal proceedings. Through such proceeding the Court shall determine the fair value of the shares exclusive of any element of value arising from the accomplishment or expectation of the merger or consolidation, together with interest, if any, to be paid upon the amount determined to be the fair value. In determining such fair value, the Court shall take into account all relevant factors. Unless the Court in its discretion determines otherwise for good cause shown, and except as provided in this subsection, interest from the effective date of the merger through the date of payment of the judgment shall be compounded quarterly and shall accrue at 5% over the Federal Reserve discount rate (including any surcharge) as established from time to time during the period between the effective date of the merger and the date of payment of the judgment. At any time before the entry of judgment in the proceedings, the surviving corporation may pay to each stockholder entitled to appraisal an amount in cash, in which case interest shall accrue thereafter as provided herein only upon the sum of (1) the difference, if any, between the amount so paid and the fair value of the shares as determined by the Court, and (2) interest theretofore accrued, unless paid at that time. Upon application by the surviving or resulting corporation or by any stockholder entitled to participate in the appraisal proceeding, the Court may, in its discretion, proceed to trial upon the appraisal prior to the final determination of the stockholders entitled to an appraisal. Any stockholder whose name appears on the list filed by the surviving or resulting corporation pursuant to subsection (f) of this section and who has submitted such stockholder's certificates of stock to the Register in Chancery, if such is required, may participate fully in all proceedings until it is finally determined that such stockholder is not entitled to appraisal rights under this section.

(i) The Court shall direct the payment of the fair value of the shares, together with interest, if any, by the surviving or resulting corporation to the stockholders entitled thereto. Payment shall be so made to each such stockholder, in the case of holders of uncertificated stock forthwith, and the case of holders of shares represented by certificates upon the surrender to the corporation of the certificates representing such stock. The Court's decree may be enforced as other decrees in the Court of Chancery may be enforced, whether such surviving or resulting corporation be a corporation of this State or of any state.

(j) The costs of the proceeding may be determined by the Court and taxed upon the parties as the Court deems equitable in the circumstances. Upon application of a stockholder, the Court may order all or a portion of the expenses incurred by any stockholder in connection with the appraisal proceeding, including, without limitation, reasonable attorney's fees and the fees and expenses of experts, to be charged pro rata against the value of all the shares entitled to an appraisal.

(k) From and after the effective date of the merger or consolidation, no stockholder who has demanded appraisal rights as provided in subsection (d) of this section shall be entitled to vote such stock for any purpose or to receive payment of dividends or other distributions on the stock (except dividends or other distributions payable to stockholders of record at a date which is prior to the effective date of the merger or consolidation); provided, however, that if no petition for an appraisal shall be filed within the time provided in subsection (e) of this section, or if such stockholder shall deliver to the surviving or resulting corporation a written withdrawal of such stockholder's demand for an appraisal and an acceptance of the merger or consolidation, either within 60 days after the effective date of the merger or consolidation as provided in subsection (e) of this section or thereafter with the written approval of the corporation, then the right of such stockholder to an appraisal shall cease. Notwithstanding the foregoing, no appraisal proceeding in the Court of Chancery shall be dismissed as to any stockholder without the approval of the Court, and such approval may be conditioned upon such terms as the Court deems just; provided, however that this provision shall not affect the right of any stockholder who has not commenced an appraisal proceeding or joined that proceeding as a named party to withdraw such stockholder's demand for appraisal and to accept the terms offered upon the merger or consolidation within 60 days after the effective date of the merger or consolidation, as set forth in subsection (e) of this section.

(l) The shares of the surviving or resulting corporation to which the shares of such objecting stockholders would have been converted had they assented to the merger or consolidation shall have the status of authorized and unissued shares of the surviving or resulting corporation.

Annex H

PHARMATHENE, INC.

2017 OMNIBUS INCENTIVE PLAN

TABLE OF CONTENTS

PHARMATHENE, INC.

2017 OMNIBUS INCENTIVE PLAN

ARTICLE I

PURPOSE

The purpose of this PharmAthene, Inc. 2017 Omnibus Incentive Plan is to enhance the profitability and value of the Company for the benefit of its stockholders by enabling the Company to offer Eligible Employees, Consultants and Non-Employee Directors incentive awards to attract, retain and reward such individuals and strengthen the mutuality of interests between such individuals and the Company's stockholders. The Plan, as set forth herein, is effective as of the Effective Date (as defined in Article XIV).

ARTICLE II

DEFINITIONS

For purposes of the Plan, the following terms shall have the following meanings:

2.1 "Acquisition Event"

means a merger or consolidation in which the Company is not the surviving entity, any transaction that results in the acquisition of all or substantially all of the Company's outstanding Common Stock by a single person or entity or by a group of persons or entities acting in concert, or the sale or transfer of all or substantially all of the Company's assets.

2.2 "Affiliate"

means each of the following: (a) any Subsidiary; (b) any Parent; (c) any corporation, trade or business (including a partnership or limited liability company) that is directly or indirectly controlled 50% or more (whether by ownership of stock, assets or an equivalent ownership interest or voting interest) by the Company or any Affiliate; (d) any corporation, trade or business (including a partnership or limited liability company) that directly or indirectly controls 50% or more (whether by ownership of stock, assets or an equivalent ownership interest or voting interest) of the Company; and (e) any other entity in which the Company or any Affiliate has a material equity interest and that is designated as an "Affiliate" by resolution of the Committee.

2.3 "Appreciation Award"

means any Stock Option or any Other Stock-Based Award that is based on the appreciation in value of a share of Common Stock in excess of an amount at least equal to the Fair Market Value on the date such Stock Option or Other Stock-Based Award is granted.

2.4 "Award"

means any award granted or made under the Plan of any Stock Option, Restricted Stock, Other Stock-Based Award or Performance-Based Cash Award.

2.5 "Board"

means the Board of Directors of the Company.

2.6 "Cause"

means, with respect to a Participant's Termination of Employment or Termination of Consultancy: unless otherwise defined in the applicable Award agreement or other written agreement approved by the Committee, a termination due to (i) the Participant's conviction of, or plea of guilty or *nolo contendere* to, a felony; (ii) perpetration by the Participant of an illegal act, dishonesty or fraud that could have a significant adverse effect on the Company or its assets or reputation; or (iii) the Participant's willful misconduct with regard to the Company, as determined by the Committee. With respect to a Participant's Termination of Directorship, "cause" means an act or failure to act that constitutes cause for removal of a director under Delaware law.

2.7 "Change in Control"

unless otherwise defined in the applicable Award agreement or other written agreement approved by the Committee and subject to Section 13.14(b), means the occurrence of any of the following:

(a) the acquisition (including through purchase, reorganization, merger, consolidation or similar transaction), directly or indirectly, in one or more transactions by a Person of beneficial ownership (within the meaning of Rule 13d-3 under the Exchange Act) of securities representing 50% or more of the combined voting power of the securities of the Company entitled to vote generally in the election of directors of the Board, calculated on a fully diluted basis after giving effect to such acquisition;

(b) an election of Persons to the Board that causes two-thirds of the Board to consist of Persons other than (i) members of the Board on the Effective Date and (ii) Persons who were nominated for election as members of the Board at a time when two-thirds of the Board consisted of Persons who were members of the Board on the Effective Date; provided that any Person nominated for election by a Board at least two-thirds of which consisted of Persons described in clauses (i) or (ii) or by Persons who were themselves nominated by such Board shall be deemed to have been nominated by a Board consisting of Persons described in clause (i); or

(c) the sale or other disposition, directly or indirectly, of all or substantially all of the assets of the Company and its subsidiaries, taken as a whole, to any Person;

provided, however, that a Change in Control shall be deemed to not have occurred if such Change in Control results from the issuance, in connection with a bona fide transaction or series of transactions with the primary purpose of providing equity financing to the Company or any of its Affiliates, of voting securities of the Company or any of its Affiliates or any rights to acquire voting securities of the Company or any of its Affiliates which are convertible into voting securities.

2.8 "Change in Control Price"

has the meaning set forth in Section 10.1.

2.9 "Code"

means the Internal Revenue Code of 1986, as amended. Any reference to a section of the Code shall also be a reference to any successor provision and any Treasury Regulation promulgated thereunder.

2.10 "Committee"

means: (a) with respect to the application of the Plan to Eligible Employees and Consultants, the Compensation Committee of the Board or such other committee or subcommittee that is appointed by the Board, in each case, consisting of two or more non-employee directors, each of whom is intended to be (i) to the extent required by Rule 16b-3, a "nonemployee director" as defined in Rule 16b-3; (ii) to the extent required by Section 162(m), an "outside director" as defined under Section 162(m); and (iii) as applicable, an "independent director" as defined under the Nasdaq Listing Rules, the NYSE Listed Company Manual or other applicable stock exchange rules; and (b) with respect to the application of the Plan to Non-Employee Directors, the Board. It is intended that, absent an affirmative decision by the Board to appoint a separate Committee, the Compensation Committee of the Board shall serve as the "Committee" with respect to the application of the Plan to Eligible Employees and Consultants. To the extent that no Committee exists that has the authority to administer the Plan, the functions of the Committee shall be exercised by the Board and all references herein to the Committee shall be deemed references to the Board. If for any reason the appointed Committee does not meet the requirements of Rule 16b-3 or Section 162(m), such noncompliance shall not affect the validity of Awards, grants, interpretations or other actions of the Committee.

2.11 "Common Stock"

means the common stock of the Company, par value $0.001 per share.

2.12 "Company"

means PharmAthene, Inc., a Delaware corporation, and its successors by operation of law.

2.13 "Competitor"

means any Person that is, directly or indirectly, in competition with the business or activities of the Company and its Affiliates.

2.14 "Consultant"

means any natural person who provides bona fide consulting or advisory services to the Company or its Affiliates, provided that such services are not in connection with the offer or sale of securities in a capital-raising transaction, and do not, directly or indirectly, promote or maintain a market for the Company's or its Affiliates' securities.

2.15 "Detrimental Activity"

means, unless otherwise defined in the applicable Award agreement or other written agreement approved by the Committee:

(a) without written authorization from the Company, disclosure to any Person outside the Company and its Affiliates or the use in any manner, except as necessary in the furtherance of Participant's responsibilities to the Company or any of its Affiliates, at any time, of any confidential information, trade secrets or proprietary information relating to the business of the Company or any of its Affiliates that is acquired by the Participant at any time prior to the Participant's Termination;

(b) any activity while employed or performing services that results, or if known could have reasonably been expected to result, in the Participant's Termination for Cause;

(c) without written authorization from the Company, directly or indirectly, in any capacity whatsoever, (i) own, manage, operate, control, be employed by (whether as an employee, consultant, independent contractor or otherwise, and whether or not for compensation) or render services to any Competitor; (ii) solicit, aid or induce any customer of the Company or any Subsidiary to curtail, reduce or terminate its business relationship with the Company or any Subsidiary, or in any other way interfere with any such business relationships with the Company or any Subsidiary; (iii) solicit, aid or induce any employee, representative or agent of the Company or any Subsidiary to leave such employment or retention or to accept employment with or render services to or with any other person, firm, corporation or other entity unaffiliated with the Company or hire or retain any such employee, representative or agent or take any action to materially assist or aid any other person, firm, corporation or other entity in identifying, hiring or soliciting any such employee, representative or agent; or (iv) interfere, or aid or induce any other person or entity in interfering, with the relationship between the Company, its Subsidiaries and any of their respective vendors, joint venturers or licensors;

(d) a material breach of any restrictive covenant contained in any agreement between the Participant and the Company or an Affiliate; or

(e) the Participant's Disparagement, or inducement of other to do so, of the Company or its Affiliates or their past or present officers, directors, employees or products.

Only the Chief Executive Officer or the Chief Financial Officer of the Company (or his or her designee, as evidenced in writing) shall have the authority to provide the Participant, except for himself or herself, with written authorization to engage in the activities contemplated in subsections (a) and (c).

2.16 "Disability"

means, unless otherwise defined in the applicable Award agreement or other written agreement approved by the Committee, with respect to a Participant's Termination, a permanent and total disability as defined in Section 22(e)(3) of the Code. A Disability shall only be deemed to occur at the time of the determination by the Committee of the Disability. Notwithstanding the foregoing, for an Award that provides for payment or settlement triggered upon a Disability and that constitutes a Section 409A Covered Award, the foregoing definition shall apply for purposes of vesting of such Award, provided that for purposes of payment or settlement of such Award, such Award shall not be paid (or otherwise settled) until the earliest of: (A) the Participant's "disability" within the meaning of Section 409A(a)(2)(C)(i) or (ii) of the Code, (B) the

Participant's "separation from service" within the meaning of Section 409A of the Code and (C) the date such Award would otherwise be settled pursuant to the terms of the Award agreement.

2.17 "Disparagement"

means making comments or statements to the press, the Company's or its Affiliates' employees, consultants or any individual or entity with whom the Company or its Affiliates has a business relationship which could reasonably be expected to adversely affect in any manner: (a) the conduct of the business of the Company or its Affiliates (including, without limitation, any products or business plans or prospects); or (b) the business reputation of the Company or its Affiliates, or any of their products, or their past or present officers, directors or employees.

2.18 "Effective Date"

means the effective date of the Plan as defined in Article XIV.

2.19 "Eligible Employee"

means an employee of the Company or an Affiliate.

2.20 "Exchange Act"

means the Securities Exchange Act of 1934, as amended, and all rules and regulations promulgated thereunder. Any references to any section of the Exchange Act shall also be a reference to any successor provision.

2.21 "Exercisable Awards"

has the meaning set forth in Section 4.2(d).

2.22 "Fair Market Value"

unless otherwise required by any applicable provision of the Code, means as of any date and except as provided below, (a) the closing price reported for the Common Stock on such date: (i) as reported on the principal national securities exchange in the United States on which it is then traded; or (ii) if not traded on any such national securities exchange, as quoted on an automated quotation system sponsored by the Financial Industry Regulatory Authority or (b) if the Common Stock shall not have been reported or quoted on such date, on the first day prior thereto on which the Common Stock was reported or quoted. If the Common Stock is not traded, listed or otherwise reported or quoted, then Fair Market Value means the fair market value of the Common Stock as determined by the Committee in good faith in whatever manner it considers appropriate taking into account the requirements of Section 409A or Section 422 of the Code, as applicable. Notwithstanding anything herein to the contrary, for purposes of any Stock Options that are granted effective on the Registration Date, the Fair Market Value shall equal the initial public offering price of the Common Stock.

2.23 "Family Member"

means "family member" as defined in Section A.1.(5) of the general instructions of Form S-8, as may be amended from time to time.

2.24 "HMRC"

means HM Revenue and Customs, the taxing authority in the United Kingdom.

2.25 "Incentive Stock Option"

means any Stock Option awarded to an Eligible Employee of the Company, its Subsidiaries or its Parent intended to be and designated as an "Incentive Stock Option" within the meaning of Section 422 of the Code.

2.26 "Individual Target Award"

has the meaning in Section 9.1.

2.27 "Lead Underwriter"

has the meaning in Section 13.24.

2.28 "Lock-Up Period"

has the meaning in Section 13.24.

2.29 "Non-Employee Director"

means a director of the Company or an Affiliate who is not an active employee of the Company or an Affiliate.

2.30 "Non-Qualified Stock Option"

means any Stock Option that is not an Incentive Stock Option.

2.31 "Other Extraordinary Event"

has the meaning in Section 4.2(b).

2.32 "Other Stock-Based Award"

means an Award under Article VIII that is valued in whole or in part by reference to, or is payable in or otherwise based on, Common Stock.

2.33 "Parent"

means any parent corporation of the Company within the meaning of Section 424(e) of the Code.

2.34 "Participant"

means an Eligible Employee, Non-Employee Director or Consultant to whom an Award has been granted pursuant to the Plan.

2.35 "Performance-Based Cash Award"

means a cash Award under Article IX that is payable or otherwise based on the attainment of certain pre-established performance goals during a Performance Period.

2.36 "Performance Criteria"

has the meaning set forth in Exhibit A.

2.37 "Performance Period"

means each fiscal year of the Company or such other period (as specified by the Committee) over which the attainment of performance goals is measured.

2.38 "Performance Share"

means an Other Stock-Based Award of the right to receive a number of shares of Common Stock or cash of an equivalent value at the end of a specified Performance Period.

2.39 "Performance Unit"

means an Other Stock-Based Award of the right to receive a fixed dollar amount, payable in cash or Common Stock or a combination of both, at the end of a specified Performance Period.

2.40 "Person"

means any individual, entity (including any employee benefit plan or any trust for an employee benefit plan) or group (within the meaning of Section 13(d)(3) or Section 14(d)(2) of the Exchange Act, or any successor provision).

2.41 "Plan"

means this PharmAthene, Inc. 2017 Omnibus Incentive Plan, as amended from time to time.

2.42 "Registration Date"

means the first date on or after the Effective Date (a) on which the Company sells its Common Stock in a bona fide, firm commitment underwriting pursuant to a registration statement under the Securities Act or (b) any class of common equity securities of the Company is required to be registered under Section 12 of the Exchange Act.

2.43 "Restricted Stock"

means an Award of shares of Common Stock that is subject to restrictions pursuant to Article VII.

2.44 "Restriction Period"

has the meaning set forth in Section 7.3(a).

2.45 "Rule 16b-3"

means Rule 16b-3 under Section 16(b) of the Exchange Act as then in effect or any successor provision.

2.46 "Secondary Contributions"

has the meaning in Section 13.4(b).

2.47 "Secondary Contributor"

has the meaning in Section 13.4(b).

2.48 "Section 162(m)"

means the exception for performance-based compensation under Section 162(m) of the Code.

2.49 "Section 4.2 Event"

has the meaning set forth in Section 4.2(b).

2.50 "Section 409A Covered Award"

has the meaning set forth in Section 13.15.

2.51 "Section 409A"

means the nonqualified deferred compensation rules under Section 409A of the Code.

2.52 "Securities Act"

means the Securities Act of 1933, as amended and all rules and regulations promulgated thereunder. Any reference to any section of the Securities Act shall also be a reference to any successor provision.

2.53 "Stock Option" or **"Option"**

means any option to purchase shares of Common Stock granted to Eligible Employees, Non-Employee Directors or Consultants pursuant to Article VI.

2.54 "Subsidiary"

means any subsidiary corporation of the Company within the meaning of Section 424(f) of the Code.

2.55 "Ten Percent Stockholder"

means a person owning stock possessing more than 10% of the total combined voting power of all classes of stock of the Company, its Subsidiaries or its Parent.

2.56 "Termination"

means a Termination of Consultancy, Termination of Directorship or Termination of Employment, as applicable.

2.57 "Termination of Consultancy"

means: (a) that the Consultant is no longer acting as a consultant to the Company or an Affiliate; or (b) when an entity that is retaining a Participant as a Consultant ceases to be an Affiliate unless the Participant otherwise is, or thereupon becomes, a Consultant to the Company or another Affiliate at the time the entity ceases to be an Affiliate. In the event that a Consultant becomes an Eligible Employee or a Non-Employee Director upon the termination of his consultancy, unless otherwise determined by the Committee, no Termination of Consultancy shall be deemed to occur until such time as such Consultant is no longer a Consultant, an Eligible Employee or a Non-Employee Director. Notwithstanding the foregoing, the Committee may otherwise define Termination of Consultancy in the Award agreement or, if no rights of a Participant are reduced, may otherwise define Termination of Consultancy thereafter.

2.58 "Termination of Directorship"

means that the Non-Employee Director has ceased to be a director of the Company; except that if a Non-Employee Director becomes an Eligible Employee or a Consultant upon the termination of his directorship, his ceasing to be a director of the Company shall not be treated as a Termination of Directorship unless and until the Participant has a Termination of Employment or Termination of Consultancy, as the case may be.

2.59 "Termination of Employment"

means: (a) a termination of employment (for reasons other than a military or approved personal leave of absence) of a Participant from the Company and its Affiliates; or (b) when an entity that is employing a Participant ceases to be an Affiliate, unless the Participant otherwise is, or thereupon becomes, employed by the Company or another Affiliate at the time the entity ceases to be an Affiliate. In the event that an Eligible Employee becomes a Consultant or a Non-Employee Director upon the termination of his employment, unless otherwise determined by the Committee, no Termination of Employment shall be deemed to occur until such time as such Eligible Employee is no longer an Eligible Employee, a Consultant or a Non-Employee Director. Notwithstanding the foregoing, the Committee may otherwise define Termination of Employment in the Award agreement or, if no rights of a Participant are reduced, may otherwise define Termination of Employment thereafter.

2.60 "Transfer"

means: (a) when used as a noun, any direct or indirect transfer, sale, assignment, pledge, hypothecation, encumbrance or other disposition (including the issuance of equity in a Person), whether for value or no value and whether voluntary or involuntary (including by operation of law), and (b) when used as a verb, to directly or indirectly transfer, sell, assign, pledge, encumber, charge, hypothecate or otherwise dispose of (including the issuance of equity in a Person) whether for value or for no value and whether voluntarily or involuntarily (including by operation of law). "Transferred" and "Transferable" shall have a correlative meaning.

ARTICLE III

ADMINISTRATION

3.1 The Committee.

The Plan shall be administered and interpreted by the Committee.

3.2 Grant and Administration of Awards.

The Committee shall have full authority and discretion, as provided in Section 3.7, to grant and administer Awards including the authority to:

(a) select the Eligible Employees, Consultants and Non-Employee Directors to whom Awards may from time to time be granted;

(b) determine the number of shares of Common Stock to be covered by each Award;

(c) determine the type and the terms and conditions, not inconsistent with the terms of the Plan, of each Award (including, but not limited to, the exercise or purchase price (if any), any restriction or limitation or any vesting schedule or acceleration thereof);

(d) determine whether a Stock Option is an Incentive Stock Option or Non-Qualified Stock Option;

(e) determine whether to require a Participant, as a condition of the granting of any Award, to refrain from selling or otherwise disposing of Common Stock acquired pursuant to such Award for a period of time as determined by the Committee;

(f) condition the grant, vesting or payment of any Award on the attainment of performance goals (including goals based on the Performance Criteria) over a Performance Period, set such goals and such period, and certify the attainment of such goals;

(g) amend, after the date of grant, the terms that apply to an Award upon a Participant's Termination, provided that such amendment does not reduce the Participant's rights under the Award;

(h) determine the circumstances under which Common Stock and other amounts payable with respect to an Award may be deferred automatically or at the election of the Participant, in each case in a manner intended to comply with or be exempt from Section 409A;

(i) generally, exercise such powers and perform such acts as the Committee deems necessary or advisable to promote the best interests of the Company in connection with the Plan that are not inconsistent with the provisions of the Plan;

(j) construe and interpret the terms and provisions of the Plan and any Award (and any agreements relating thereto); and

(k) correct any defect, supply any omission or reconcile any inconsistency in the Plan or in any agreement relating thereto.

3.3 Award Agreements.

All Awards shall be evidenced by, and subject to the terms and conditions of, a written notice provided by the Company to the Participant or a written agreement executed by the Company and the Participant.

3.4 Guidelines.

The Committee shall have the authority to adopt, alter and repeal such administrative rules, guidelines and practices governing the Plan as it shall, from time to time, deem necessary or advisable. The Committee may adopt special guidelines and provisions for persons who are residing in or employed in, or subject to, the taxes of, any domestic or foreign jurisdiction to comply with applicable tax and securities laws and may impose such limitations and restrictions that it deems necessary or advisable to comply with the applicable tax and securities laws of such domestic or foreign jurisdiction.

3.5 [Reserved].

3.6 Delegation; Advisors.

The Committee may, as it from time to time as it deems advisable, to the extent permitted by applicable law and stock exchange rules:

(a) delegate its responsibilities to officers or employees of the Company and its Affiliates, including delegating authority to officers to grant Awards or execute agreements or other documents on behalf of the Committee; and

(b) engage legal counsel, consultants, professional advisors and agents to assist in the administration of the Plan and rely upon any opinion or computation received from any such Person. Expenses incurred by the Committee or the Board in the engagement of any such person shall be paid by the Company.

3.7 Decisions Final.

All determinations, evaluations, elections, approvals, authorizations, consents, decisions, interpretations and other actions made or taken by or at the direction of the Company, the Board or the Committee (or any of its members) arising out of or in connection with the Plan shall be within the sole and absolute discretion of all and each of them, and shall be final, binding and conclusive on all employees and Participants and their respective beneficiaries, heirs, executors, administrators, successors and assigns.

3.8 Procedures.

If the Committee is appointed, the Board shall designate one of the members of the Committee as chairman and the Committee shall hold meetings, subject to the By-Laws of the Company, at such times and places as it shall deem advisable, including by telephone conference or by written consent to the extent permitted by applicable law. A majority of the Committee members shall constitute a quorum. All determinations of the Committee shall be made by a majority of its members. Any decision or determination reduced to writing and signed by all of the Committee members in accordance with the By-Laws of the Company, shall be fully effective as if it had been made by a vote at a meeting duly called and held. The Committee shall keep minutes of its meetings and shall make such rules and regulations for the conduct of its business as it shall deem advisable.

3.9 Liability; Indemnification.

(a) The Committee, its members and any delegate or Person engaged pursuant to Section 3.6 shall not be liable for any action or determination made in good faith with respect to the Plan. To the maximum extent permitted by applicable law, no officer or employee of the Company or any Affiliate or member or former member of the Committee or of the Board shall be liable for any action or determination made in good faith with respect to the Plan or any Award granted under it.

(b) To the maximum extent permitted by applicable law and the Certificate of Incorporation and By-Laws of the Company and to the extent not covered by insurance directly insuring such person, each current or former officer or employee of the Company or any Affiliate and member of the Committee or the Board shall be indemnified and held harmless by the Company against any cost or expense (including reasonable fees of counsel reasonably acceptable to the Committee) or liability (including any sum paid in settlement of a claim with the approval of the Committee), and advanced amounts necessary to pay the foregoing at the earliest time and to the fullest extent permitted, arising out of any act or omission to act in connection with the administration of the Plan, except to the extent arising out of such person's own fraud or bad faith. Such indemnification shall be in addition to any rights of indemnification provided for under applicable law or under the Certificate of Incorporation or By-Laws of the Company or any Affiliate. Notwithstanding anything else herein, this indemnification will not apply to the actions or determinations made by an individual with regard to Awards granted to him.

ARTICLE IV

SHARE LIMITATIONS

4.1 Shares.

(a) General Limitations.

(i) Subject to Section 4.2, the aggregate number of shares of Common Stock which may be issued or used for reference purposes or with respect to which Awards under the Plan may be granted over the term of the Plan is 15,000,000. Subject to Section 4.2, no more than 15,000,000 shares of Common Stock in the aggregate may be issued under the Plan in respect of Incentive Stock Options. At all times, the Company will reserve and keep available a sufficient number of Common Stock as will be required to satisfy the requirements of all Awards granted and outstanding under the Plan. The aggregate share reserve specified in this Section 4.1(a)(i) will be increased on January 1 of each year commencing in 2018 and ending on (and including) January 1, 2027 in an amount equal to the least of: (i) 10,000,000 shares of Common Stock, (ii) four (4) percent (4%) of

the total number of shares of Common Stock outstanding on a fully diluted basis as of December 31 of the immediately preceding calendar year, and (iii) such number of shares of Common Stock, if any, determined by the Board.

(ii) If any Appreciation Award expires, terminates or is canceled for any reason without having been exercised in full, the number of shares of Common Stock underlying any unexercised portion shall again be available under the Plan. If shares of Restricted Stock or Other Stock-Based Awards that are not Appreciation Awards are forfeited for any reason, the number of forfeited shares comprising or underlying the Award shall again be available under the Plan.

(iii) Shares of Common Stock that are not issued pursuant to net settlement or which are used to pay any exercise price or tax withholding obligation with respect to any Award shall not be available under the Plan. Notwithstanding anything to the contrary herein, Awards that may be settled solely in cash shall not be deemed to use any shares under the Plan.

(iv) Shares issued under the Plan may be either authorized and unissued Common Stock or Common Stock held in or acquired for the treasury of the Company, or both.

(b) Individual Participant Limitations. Except as otherwise provided herein, at all times:

(i) the maximum number of shares of Common Stock that may be made subject to Stock Options, Restricted Stock or Other Stock-Based Awards denominated in shares of Common Stock granted to each Eligible Employee or Consultant during any fiscal year of the Company is 8,000,000 shares per type of Award (subject to increase or decrease pursuant to Section 4.2); provided that the maximum number of shares of Common Stock for all types of Awards during any fiscal year of the Company that may be granted to each Eligible Employee or Consultant is 8,000,000 shares (subject to increase or decrease pursuant to Section 4.2); and

(ii) the aggregate amount of compensation to be paid to any one Participant in respect of all Other Stock-Based Awards denominated in dollars and Performance-Based Cash Awards, and granted to such Participant in any one fiscal year of the Company, shall not exceed $5,000,000 and any Awards that are cancelled during the year shall be counted against this limit to the extent required by Section 162(m) of the Code; provided, further, that the foregoing limit shall be adjusted on a proportionate basis for any Performance Period that is not based on one fiscal year of the Company;

(iii) the maximum number of shares of Common Stock that may be made subject to Awards granted to each Non-Employee Director during any fiscal year of the Company is 5,000,000 shares (subject to increase or decrease pursuant to Section 4.2).

4.2 Changes.

(a) The existence of the Plan and the Awards shall not affect in any way the right or power of the Board or the stockholders of the Company to make or authorize (i) any adjustment, recapitalization, reorganization or other change in the Company's capital structure or its business, (ii) any merger or consolidation of the Company or any Affiliate, (iii) any issuance of bonds, debentures, preferred or prior preference stock ahead of or affecting the Common Stock, (iv) the dissolution or liquidation of the Company or any Affiliate, (v) any sale or transfer of all or part of the assets or business of the Company or any Affiliate, (vi) any Section 4.2 Event or (vii) any other corporate act or proceeding.

(b) Subject to the provisions of Section 4.2(d), in the event of any change in the capital structure or business of the Company by reason of any stock split, reverse stock split, stock dividend, combination or reclassification of shares, recapitalization, merger, consolidation, spin off, split off, reorganization or partial or complete liquidation, issuance of rights or warrants to purchase Common Stock or securities convertible into Common Stock, sale or transfer of all or part of the Company's assets or business, or other corporate transaction or event that would be considered an "equity restructuring" within the meaning of FASB ASC Topic 718 (each, a "**Section 4.2 Event**"), then (i) the aggregate number or kind of shares that thereafter may be issued under the Plan, (ii) the number or kind of shares or other property (including cash) subject to an Award, (iii) the purchase or exercise price of Awards, or (iv) the individual Participant limits set forth in Section 4.1(b) (other than cash limitations) shall be adjusted by

the Committee as the Committee determines, in good faith, to be necessary or advisable to prevent substantial dilution or enlargement of the rights of Participants under the Plan. In connection with any Section 4.2 Event, the Committee may provide for the cancellation of outstanding Awards and payment in cash or other property in exchange therefor. In addition, subject to Section 4.2(d), in the event of any change in the capital structure of the Company that is not a Section 4.2 Event (an "**Other Extraordinary Event**"), then the Committee may make the adjustments described in clauses (i) through (iv) above as it determines, in good faith, to be necessary or advisable to prevent substantial dilution or enlargement of the rights of Participants under the Plan. Notice of any such adjustment shall be given by the Committee to each Participant whose Award has been adjusted and such adjustment (whether or not such notice is given) shall be binding for all purposes of the Plan. Except as expressly provided in this Section 4.2(b) or in the applicable Award agreement, a Participant shall have no rights by reason of any Section 4.2 Event or any Other Extraordinary Event. Notwithstanding the foregoing, (x) any adjustments made pursuant to Section 4.2(b) to Awards that are considered "non-qualified deferred compensation" within the meaning of Section 409A shall be made in a manner intended to comply with the requirements of Section 409A; and (y) any adjustments made pursuant to Section 4.2(b) to Awards that are not considered "non-qualified deferred compensation" subject to Section 409A shall be made in a manner intended to ensure that after such adjustment, the Awards either (A) continue to be exempt from Section 409A or (B) comply with the requirements of Section 409A.

(c) Fractional shares of Common Stock resulting from any adjustment in Awards pursuant to Section 4.2(a) or (b) shall be aggregated until, and eliminated at, the time of exercise by rounding-down for fractions less than one-half and rounding-up for fractions equal to or greater than one-half. No cash settlements shall be made with respect to fractional shares eliminated by rounding.

(d) Upon the occurrence of an Acquisition Event, the Committee may terminate all outstanding and unexercised Stock Options or any Other Stock-Based Award that provides for a Participant-elected exercise (collectively, "**Exercisable Awards**"), effective as of the date of the Acquisition Event, by delivering notice of termination to each Participant at least 20 days prior to the date of consummation of the Acquisition Event, in which case during the period from the date on which such notice of termination is delivered to the consummation of the Acquisition Event, each such Participant shall have the right to exercise in full all of such Exercisable Awards that are then outstanding to the extent vested on the date such notice of termination is given (or, at the discretion of the Committee, without regard to any limitations on exercisability otherwise contained in the Award agreements), but any such exercise shall be contingent on the occurrence of the Acquisition Event, and, provided that, if the Acquisition Event does not take place within a specified period after giving such notice for any reason whatsoever, the notice and exercise pursuant thereto shall be null and void and the applicable provisions of Section 4.2(b) and Article X shall apply. For the avoidance of doubt, in the event of an Acquisition Event, the Committee may terminate any Exercisable Award for which the exercise price is equal to or exceeds the Fair Market Value on the date of the Acquisition Event without payment of consideration therefor. If an Acquisition Event occurs but the Committee does not terminate the outstanding Awards pursuant to this Section 4.2(d), then the provisions of Section 4.2(b) and Article X shall apply.

4.3 Minimum Purchase Price.

Notwithstanding any provision of the Plan to the contrary, if authorized but previously unissued shares of Common Stock are issued under the Plan, such shares shall not be issued for a consideration that is less than permitted under applicable law.

ARTICLE V

ELIGIBILITY

5.1 General Eligibility.

All current and prospective Eligible Employees and Consultants, and current Non-Employee Directors, are eligible to be granted Awards. Eligibility for the grant of Awards and actual participation in the Plan shall be determined by the Committee in its sole discretion. Notwithstanding anything herein to the contrary, no Award under which a Participant may receive shares of Common Stock may be granted to an Eligible

Employee, Consultant or Non-Employee Director of any Affiliate if such shares of Common Stock do not constitute "service recipient stock" for purposes of Section 409A with respect to such Eligible Employee, Consultant or Non-Employee Director if such shares are required to constitute "service recipient stock" for such Award to comply with, or be exempt from, Section 409A of the Code.

5.2 Incentive Stock Options.

Notwithstanding anything herein to the contrary, only Eligible Employees of the Company, its Subsidiaries and its Parent (if any) are eligible to be granted Incentive Stock Options under the Plan. Eligibility for the grant of an Incentive Stock Option and actual participation in the Plan shall be determined by the Committee.

5.3 General Requirement.

The grant of Awards to a prospective Eligible Employee or Consultant and the vesting and exercise of such Awards shall be conditioned upon such Person actually becoming an Eligible Employee or Consultant; provided, however, that no Award may be granted to a prospective Eligible Employee or Consultant unless the Company determines that the Award will comply with applicable laws, including the securities laws of all relevant jurisdictions (and, in the case of an Award to an Eligible Employee or Consultant pursuant to which Common Stock would be issued prior to such Person performing services for the Company, the Company may require payment of not less than the par value of the Common Stock by cash or check in order to ensure proper issuance of the shares in compliance with applicable law). Awards may be awarded in consideration for past services actually rendered to the Company or an Affiliate.

ARTICLE VI

STOCK OPTIONS

6.1 Stock Options.

Each Stock Option shall be one of two types: (a) an Incentive Stock Option or (b) a Non-Qualified Stock Option. The Committee shall have the authority to grant to any Eligible Employee Incentive Stock Options, Non-Qualified Stock Options, or both types of Stock Options. The Committee shall have the authority to grant any Consultant or Non-Employee Director Non-Qualified Stock Options. To the extent that any Stock Option does not qualify as an Incentive Stock Option (whether because of its provisions or the time or manner of its exercise or otherwise), such Stock Option or the portion thereof that does not qualify shall constitute a separate Non-Qualified Stock Option.

6.2 Incentive Stock Options.

Notwithstanding anything in the Plan to the contrary, no term of the Plan relating to Incentive Stock Options shall be interpreted, amended or altered, nor shall any discretion or authority granted under the Plan be so exercised, so as to disqualify the Plan under Section 422 of the Code, or, without the consent of the Participants affected, to disqualify any Incentive Stock Option under Section 422 of the Code.

6.3 Terms of Stock Options.

Stock Options granted under the Plan shall be subject to the following terms and conditions and shall be in such form and contain such additional terms and conditions, not inconsistent with the terms of the Plan, as the Committee shall deem desirable:

(a) Exercise Price. The exercise price per share of Common Stock subject to a Stock Option shall be determined by the Committee on or before the date of grant, provided that the per share exercise price of a Stock Option shall not be less than 100% (or, in the case of an Incentive Stock Option granted to a Ten Percent Stockholder, 110%) of the Fair Market Value of the Common Stock on the date of grant.

(b) Stock Option Term. The term of each Stock Option shall be fixed by the Committee, provided that no Stock Option shall be exercisable more than ten years after the date such Stock Option is granted (or, in the case of an Incentive Stock Option granted to a Ten Percent Stockholder, five years).

(c) Exercisability.

(i) Stock Options shall be exercisable at such time or times and subject to such terms and conditions as shall be determined by the Committee in the applicable Award agreement. The Committee may waive any limitations on exercisability at any time at or after grant in whole or in part, in its discretion.

(ii) Unless otherwise determined by the Committee in the applicable Award agreement, (A) in the event the Participant engages in Detrimental Activity prior to any exercise of the Stock Option, all Stock Options held by the Participant shall thereupon terminate and expire, (B) as a condition of the exercise of a Stock Option, the Participant shall be required to certify in a manner acceptable to the Company (or shall be deemed to have certified) that the Participant is in compliance with the terms and conditions of the Plan and that the Participant has not engaged in, and does not intend to engage in, any Detrimental Activity, and (C) in the event the Participant engages in Detrimental Activity during the one-year period commencing on the earlier of the date the Stock Option is exercised or the date of the Participant's Termination, the Company shall be entitled to recover from the Participant at any time within one year after such date, and the Participant shall pay over to the Company, an amount equal to any gain realized (whether at the time of exercise or thereafter) as a result of the exercise. Unless otherwise determined by the Committee in the applicable Award agreement, this Section 6.3(c)(ii) shall cease to apply upon a Change in Control.

(d) Method of Exercise. To the extent vested, a Stock Option may be exercised in whole or in part at any time during the Option term, by giving written notice of exercise to the Committee (or its designee) specifying the number of shares of Common Stock to be purchased. Such notice shall be in a form acceptable to the Committee and shall be accompanied by payment in full of the purchase price as follows: (i) in cash or by check, bank draft or money order payable to the order of the Company; (ii) solely to the extent permitted by applicable law and authorized by the Committee, if the Common Stock is traded on a national securities exchange or quoted on a national quotation system sponsored by the Financial Industry Regulatory Authority, through a procedure whereby the Participant delivers irrevocable instructions to a broker reasonably acceptable to the Committee to deliver promptly to the Company an amount equal to the purchase price; or (iii) on such other terms and conditions as may be acceptable to the Committee (including the relinquishment of Stock Options or by payment in full or in part in the form of Common Stock owned by the Participant (for which the Participant has good title free and clear of any liens and encumbrances)). No shares of Common Stock shall be issued until payment therefor, as provided herein, has been made or provided for.

(e) Non-Transferability of Options. No Stock Option shall be Transferable by the Participant other than by will or by the laws of descent and distribution, and all Stock Options shall be exercisable, during the Participant's lifetime, only by the Participant. Notwithstanding the foregoing, the Committee may determine that a Non-Qualified Stock Option that otherwise is not Transferable pursuant to this section is Transferable to a Family Member in whole or in part, and in such circumstances, and under such conditions as specified by the Committee. A Non-Qualified Stock Option that is Transferred to a Family Member pursuant to the preceding sentence (i) may not be Transferred subsequently other than by will or by the laws of descent and distribution and (ii) remains subject to the terms of the Plan and the applicable Award agreement. Any shares of Common Stock acquired upon the exercise of a Non-Qualified Stock Option by a permissible transferee of a Non-Qualified Stock Option or a permissible transferee pursuant to a Transfer after the exercise of the Non-Qualified Stock Option shall be subject to the terms of this Plan and the applicable Award agreement.

(f) Termination by Death or Disability. Unless otherwise determined by the Committee at grant (or, if no rights of the Participant (or, in the case of his death, his estate) are reduced, thereafter), if a Participant's Termination is by reason of death or Disability, all Stock Options that are held by such Participant that are vested and exercisable on the date of the Participant's Termination may be exercised by the Participant (or, in the case of death, by the legal representative of the Participant's estate) at any time within a period of one year after the date of such Termination, but in no event beyond the expiration of the stated term of such Stock Options.

(g) Involuntary Termination Without Cause. Unless otherwise determined by the Committee at grant (or, if no rights of the Participant (or, in the case of his death, his estate) are reduced, thereafter), if a Participant's Termination is by involuntary termination by the Company or an Affiliate without Cause, all Stock Options that are held by such Participant that are vested and exercisable on the date of the Participant's Termination may be exercised by the Participant at any time within a period of 90 days after the date of such Termination, but in no event beyond the expiration of the stated term of such Stock Options.

(h) Voluntary Termination. Unless otherwise determined by the Committee at grant (or, if no rights of the Participant (or, in the case of his death, his estate) are reduced, thereafter), if a Participant's Termination is voluntary (other than a voluntary Termination described in subsection (i)(B) below), all Stock Options that are held by such Participant that are vested and exercisable on the date of the Participant's Termination may be exercised by the Participant at any time within a period of 30 days after the date of such Termination, but in no event beyond the expiration of the stated term of such Stock Options.

(i) Termination for Cause. Unless otherwise determined by the Committee at grant (or, if no rights of the Participant (or, in the case of his death, his estate) are reduced, thereafter), if a Participant's Termination (A) is for Cause or (B) is a voluntary Termination after the occurrence of an event that would be grounds for a Termination for Cause, all Stock Options, whether vested or not vested, that are held by such Participant shall terminate and expire on the date of such Termination.

(j) Unvested Stock Options. Unless otherwise determined by the Committee, Stock Options that are not vested as of the date of a Participant's Termination for any reason shall terminate and expire on the date of such Termination.

(k) Incentive Stock Option Limitations. To the extent that the aggregate Fair Market Value (determined as of the date of grant) with respect to which Incentive Stock Options are exercisable for the first time by an Eligible Employee during any calendar year under the Plan and any other stock option plan of the Company, any Subsidiary or any Parent exceeds $100,000, such Incentive Stock Options shall be treated as Non-Qualified Stock Options. In addition, if an Eligible Employee does not remain employed by the Company, any Subsidiary or any Parent at all times from the date an Incentive Stock Option is granted until three months prior to the date of exercise thereof (or such other period as required by applicable law), such Stock Option shall be treated as a Non-Qualified Stock Option. Should any provision of the Plan not be necessary in order for the Stock Options to qualify as Incentive Stock Options, or should any additional provisions be required, the Committee may amend the Plan accordingly, without the necessity of obtaining the approval of the stockholders of the Company.

(l) Form, Modification, Extension and Renewal of Stock Options. Stock Options may be evidenced by such form of agreement as is approved by the Committee. The Committee may (i) modify, extend or renew outstanding Stock Options (provided that (A) the rights of a Participant are not reduced without his consent and (B) such action does not subject the Stock Options to Section 409A or otherwise extend the Stock Options beyond their stated term), and (ii) accept the surrender of outstanding Stock Options and authorize the granting of new Stock Options in substitution therefor. Notwithstanding anything herein to the contrary, an outstanding Option may not be modified to reduce the exercise price thereof nor may a new Option at a lower exercise price be substituted for a surrendered Option (other than adjustments or substitutions in accordance with Section 4.2), unless such action is approved by the stockholders of the Company.

(m) No Reload Options. Options shall not provide for the grant of the same number of Options as the number of shares used to pay for the exercise price of Options or shares used to pay withholding taxes (i.e., "reloads").

ARTICLE VII

RESTRICTED STOCK

7.1 Awards of Restricted Stock.

The Committee shall determine the Participants to whom, and the time or times at which, grants of Restricted Stock shall be made, the number of shares to be awarded, the purchase price (if any) to be paid by the Participant (subject to Section 7.2), the time or times at which such Awards may be subject to forfeiture or to restrictions on transfer, and all other terms and conditions of the Awards.

Unless otherwise determined by the Committee in the applicable Award agreement, (A) in the event the Participant engages in Detrimental Activity prior to any vesting of Restricted Stock, all unvested Restricted Stock shall be immediately forfeited, and (B) in the event the Participant engages in Detrimental Activity during the one year period after any vesting of such Restricted Stock, the Committee shall be entitled to recover from the Participant (at any time within one year after such engagement in Detrimental Activity) an amount equal to the Fair Market Value as of the vesting date(s) of any Restricted Stock that had vested in the period referred to above. Unless otherwise determined by the Committee in the applicable Award agreement, this paragraph shall cease to apply upon a Change in Control.

The Committee may condition the grant or vesting of Restricted Stock upon the attainment of specified performance goals (including goals based on the Performance Criteria) or such other factors as the Committee may determine.

7.2 Awards and Certificates.

The Committee may require, as a condition to the effectiveness of an Award of Restricted Stock, that the Participant execute and deliver to the Company an Award agreement or other documentation and comply with the terms of such Award agreement or other documentation. Further, Restricted Stock shall be subject to the following conditions:

(a) Purchase Price. The purchase price of Restricted Stock, if any, shall be fixed by the Committee. In accordance with Section 4.3, the purchase price for shares of Restricted Stock may be zero to the extent permitted by applicable law, and, to the extent not so permitted, such purchase price may not be less than par value.

(b) Legend. Each Participant receiving Restricted Stock shall be issued a stock certificate in respect of such shares of Restricted Stock, unless the Committee elects to use another system, such as book entries by the transfer agent, as evidencing ownership of shares of Restricted Stock. Such certificate shall be registered in the name of such Participant, and shall, in addition to such legends required by applicable securities laws, bear an appropriate legend referring to the terms, conditions, and restrictions applicable to such Award, substantially in the following form:

"The anticipation, alienation, attachment, sale, transfer, assignment, pledge, encumbrance or charge of the shares of stock represented hereby are subject to the terms and conditions (including forfeiture) of the PharmAthene, Inc. (the "**Company**") 2017 Omnibus Incentive Plan (as amended from time to time, the "**Plan**"), and an Award Agreement entered into between the registered owner and the Company dated . Copies of such Plan and Agreement are on file at the principal office of the Company."

(c) Custody. If stock certificates are issued in respect of shares of Restricted Stock, the Committee may require that any stock certificates evidencing such shares be held in custody by the Company until the restrictions thereon shall have lapsed, and that, as a condition of any grant of Restricted Stock, the Participant shall have delivered a duly signed stock power or other instruments of assignment (including a power of attorney), each endorsed in blank with a guarantee of signature if deemed necessary or appropriate by the Company, which would permit transfer to the Company of all or a portion of the shares subject to the Award of Restricted Stock in the event that such Award is forfeited in whole or part.

7.3 Restrictions and Conditions.

Restricted Stock shall be subject to the following restrictions and conditions:

(a) Restriction Period.

(i) The Participant shall not be permitted to Transfer shares of Restricted Stock, and the Restricted Stock shall be subject to a risk of forfeiture (collectively, "restrictions") during the period or periods set by the Committee (the "**Restriction Periods**"), as set forth in the Restricted Stock Award agreement. The Committee may provide for the lapse of the restrictions in whole or in part (including in installments) based on service, attainment of performance goals or such other factors or criteria as the Committee may determine, and may waive all or any part of the restrictions at any time subject to Section 7.3(a)(iii).

(ii) If the grant of Restricted Stock or the lapse of restrictions is based on the attainment of performance goals, such performance goals shall be established by the Committee in writing on or before the date the grant of Restricted Stock is made and while the outcome of the performance goals is substantially uncertain and that is permitted under Section 162(m) with regard to an Award of Restricted Stock that is intended to comply with Section 162(m). Such performance goals may incorporate provisions for disregarding (or adjusting for) changes in accounting methods, corporate transactions (including dispositions and acquisitions) and other similar events or circumstances. With regard to an Award of Restricted Stock that is intended to comply with Section 162(m), (A) to the extent that any such provision set forth in the prior sentence would create impermissible discretion under Section 162(m) or otherwise violate Section 162(m), such provision shall be of no force or effect and (B) the applicable performance goals shall be based on one or more of the Performance Criteria.

(b) Rights as a Stockholder. Except as otherwise determined by the Committee, the Participant shall have all the rights of a holder of shares of Common Stock of the Company with respect to Restricted Stock, subject to the following provisions of this Section 7.3(b). Except as otherwise determined by the Committee, (i) the Participant shall have no right to tender shares of Restricted Stock, (ii) dividends or other distributions (collectively, "dividends") on shares of Restricted Stock shall be withheld, in each case, while the Restricted Stock is subject to restrictions, and (iii) in no event shall dividends or other distributions payable thereunder be paid unless and until the shares of Restricted Stock to which they relate no longer are subject to a risk of forfeiture. Dividends that are not paid currently shall be credited to bookkeeping accounts on the Company's records for purposes of the Plan and, except as otherwise determined by the Committee, shall not accrue interest. Such dividends shall be paid to the Participant in the same form as paid on the Common Stock upon the lapse of the restrictions. The obligation of the Company to pay any dividends hereunder upon lapse of the applicable restrictions shall be a general, unsecured obligation of the Company payable solely from the general assets of the Company. In no event shall the Company be required, or have any obligation, to set aside, or hold in escrow or trust, any funds for the purpose of paying such dividends.

(c) Termination. Upon a Participant's Termination for any reason during the Restriction Period, all Restricted Stock still subject to restriction will vest or be forfeited in accordance with the terms and conditions established by the Committee at grant, or, if no rights of a Participant are reduced, thereafter.

(d) Lapse of Restrictions. If and when the Restriction Period expires without a prior forfeiture of the Restricted Stock, the certificates for such shares shall be delivered to the Participant, and any and all unpaid distributions or dividends payable thereunder shall be paid. All legends shall be removed from said certificates at the time of delivery to the Participant, except as otherwise required by applicable law or other limitations imposed by the Committee.

ARTICLE VIII

OTHER STOCK-BASED AWARDS

8.1 Other Awards.

The Committee is authorized to grant Other Stock-Based Awards that are payable in, valued in whole or in part by reference to, or otherwise based on or related to shares of Common Stock, including but not limited to, shares of Common Stock awarded purely as a bonus and not subject to any restrictions or conditions, shares of Common Stock in payment of the amounts due under an incentive or performance plan sponsored or maintained by the Company or an Affiliate, stock appreciation rights, stock equivalent units, restricted stock units, Performance Shares, Performance Units and Awards valued by reference to book value of shares of Common Stock.

The Committee shall have authority to determine the Participants to whom, and the time or times at which, Other Stock-Based Awards shall be made, the number of shares of Common Stock to be awarded pursuant to such Awards, and all other terms and conditions of the Awards.

The Committee may condition the grant or vesting of Other Stock-Based Awards upon the attainment of performance goals (including, performance goals based on the Performance Criteria) or such other factors as the Committee may determine. If the grant or vesting of an Other Stock-Based Award is based on the attainment of performance goals, such performance goals shall be established by the Committee in writing on or before the date the grant of Other Stock-Based Award is made and while the outcome of the performance goals is substantially uncertain and that is permitted under Section 162(m) with regard to an Other Stock-Based Award that is intended to comply with Section 162(m). Such performance goals may incorporate provisions for disregarding (or adjusting for) changes in accounting methods, corporate transactions (including dispositions and acquisitions) and other similar events or circumstances. With regard to an Other Stock-Based Award that is intended to comply with Section 162(m), (a) to the extent any such provision set forth in the prior sentence would create impermissible discretion under Section 162(m) or otherwise violate Section 162(m), such provision shall be of no force or effect and (b) the applicable performance goals shall be based on one or more of the Performance Criteria.

8.2 Terms and Conditions.

Other Stock-Based Awards made pursuant to this Article VIII shall be subject to the following terms and conditions:

(a) Non-Transferability. The Participant may not Transfer Other Stock-Based Awards or the Common Stock underlying such Awards prior to the date on which the underlying Common Stock is issued, or, if later, the date on which any restriction, performance or deferral period applicable to such Common Stock lapses.

(b) Dividends. The Committee shall determine to what extent, and under what conditions, the Participant shall have the right to receive dividends, dividend equivalents or other distributions (collectively, “dividends”) with respect to shares of Common Stock covered by Other Stock-Based Awards. Except as otherwise determined by the Committee, dividends with respect to unvested Other Stock-Based Awards shall be withheld until such Other Stock-Based Awards vest. Dividends that are not paid currently shall be credited to bookkeeping accounts on the Company’s records for purposes of the Plan and, except as otherwise determined by the Committee, shall not accrue interest. Such dividends shall be paid to the Participant in the same form as paid on the Common Stock or such other form as is determined by the Committee upon the lapse of the restrictions. The obligation of the Company to pay any dividends hereunder upon lapse of the applicable restrictions shall be a general, unsecured obligation of the Company payable solely from the general assets of the Company. In no event shall the Company be required, or have any obligation, to set aside, or hold in escrow or trust, any funds for the purpose of paying such dividends.

(c) Vesting. Other Stock Based Awards and any underlying Common Stock shall vest or be forfeited to the extent set forth in the applicable Award agreement or as otherwise determined by the Committee. At the expiration of any applicable Performance Period, the Committee shall determine the

extent to which the relevant performance goals are achieved and the portion of each Other Stock-Based Award that has been earned. The Committee may, at or after grant, accelerate the vesting of all or any part of any Other Stock-Based Award.

(d) Payment. Following the Committee's determination in accordance with subsection (c) above, shares of Common Stock or, as determined by the Committee, the cash equivalent of such shares, shall be delivered to the Participant, or his legal representative, in an amount equal to such individual's earned Other Stock-Based Award. Notwithstanding the foregoing, the Committee may exercise negative discretion by providing in an Other Stock-Based Award the discretion to pay an amount less than otherwise would be provided under the applicable level of attainment of the performance goals or subject the payment of all or part of any Other Stock-Based Award to additional vesting, forfeiture and deferral conditions as it deems appropriate.

(e) Detrimental Activity. Unless otherwise determined by the Committee in the applicable Award agreement, (A) in the event the Participant engages in Detrimental Activity prior to any vesting of such Other Stock-Based Award, all unvested Other Stock-Based Award shall be immediately forfeited, and (B) in the event the Participant engages in Detrimental Activity during the one year period after any vesting of such Other Stock-Based Award, the Committee shall be entitled to recover from the Participant (at any time within the one-year period after such engagement in Detrimental Activity) an amount equal to any gain the Participant realized from any Other Stock-Based Award that had vested in the period referred to above. Unless otherwise determined by the Committee in the applicable Award agreement, this Section 8.2(e) shall cease to apply upon a Change in Control.

(f) Price. Common Stock issued on a bonus basis under this Article VIII may be issued for no cash consideration; Common Stock purchased pursuant to a purchase right awarded under this Article VIII shall be priced as determined by the Committee.

(g) Termination. Upon a Participant's Termination for any reason during the Performance Period, the Other Stock-Based Awards will vest or be forfeited in accordance with the terms and conditions established by the Committee at grant or, if no rights of the Participant are reduced, thereafter.

ARTICLE IX

PERFORMANCE-BASED CASH AWARDS

9.1 Performance-Based Cash Awards.

The Committee shall have authority to determine the Eligible Employees and Consultants to whom, and the time or times at which, Performance-Based Cash Awards shall be made, the dollar amount to be awarded pursuant to such Performance-Based Cash Award, and all other conditions for the payment of the Performance-Based Cash Award.

Except as otherwise provided herein, the Committee shall condition the right to payment of any Performance-Based Cash Award upon the attainment of specified performance goals (including performance goals based on the Performance Criteria) established pursuant to Section 9.2(c) and such other factors as the Committee may determine, including to comply with the requirements of Section 162(m). The Committee may establish different performance goals for different Participants.

Subject to Section 9.2(c), for any Participant the Committee may specify a targeted Performance-Based Cash Award for a Performance Period (each an "Individual Target Award"). An Individual Target Award may be expressed, at the Committee's discretion, as a fixed dollar amount, a percentage of the Participant's base pay, as a percentage of a bonus pool funded by a formula based on achievement of performance goals, or an amount determined pursuant to an objective formula or standard. The Committee's establishment of an Individual Target Award for a Participant for a Performance Period shall not imply or require that the same level or any Individual Target Award be established for the Participant for any subsequent Performance Period or for any other Participant for that Performance Period or any subsequent Performance Period. At the time the performance goals are established (as provided in Section 9.2(c)), the Committee shall prescribe a formula to determine the maximum and minimum percentages (which may be greater or less than 100% of an Individual Target Award) that may be earned or payable based upon the degree of attainment of the

performance goals during the Performance Period. Notwithstanding anything else herein, the Committee may exercise negative discretion by providing in an Individual Target Award the discretion to pay a Participant an amount that is less than the Participant's Individual Target Award (or attained percentages thereof) regardless of the degree of attainment of the performance goals; provided that, except as otherwise specified by the Committee with respect to an Individual Target Award, no discretion to reduce a Performance-Based Cash Award earned based on achievement of the applicable performance goals shall be permitted for any Performance Period in which a Change in Control occurs, or during such Performance Period with regard to the prior Performance Periods if the Performance-Based Cash Awards for the prior Performance Periods have not been paid by the time of the Change in Control, with regard to individuals who were Participants at the time of the Change in Control.

9.2 Terms and Conditions.

Performance-Based Cash Awards shall be subject to the following terms and conditions:

(a) Committee Certification. At the expiration of the applicable Performance Period, the Committee shall determine and certify in writing the extent to which the performance goals established pursuant to Section 9.2(c) are achieved and, if applicable, the percentage of the Performance-Based Cash Award that has been vested and earned.

(b) Waiver of Limitation. In the event of the Participant's Disability or death, or in cases of special circumstances (to the extent permitted under Section 162(m) with regard to a Performance-Based Cash Award that is intended to comply with Section 162(m)), the Committee may waive in whole or in part any or all of the limitations imposed thereunder with respect to any or all of a Performance-Based Cash Award.

(c) Performance Goals, Formulae or Standards. The performance goals for the earning of Performance-Based Cash Awards shall be established by the Committee in writing on or before the date the grant of Performance-Based Cash Award is made and while the outcome of the performance goals is substantially uncertain and that is permitted under Section 162(m) with regard to a Performance-Based Cash Award that is intended to comply with Section 162(m). Such performance goals may incorporate provisions for disregarding (or adjusting for) changes in accounting methods, corporate transactions (including dispositions and acquisitions) and other similar type events or circumstances. With regard to a Performance-Based Cash Award that is intended to comply with Section 162(m), (i) to the extent any such provision set forth in the prior sentence would create impermissible discretion under Section 162(m) or otherwise violate Section 162(m), such provision shall be of no force or effect and (ii) the applicable performance goals shall be based on one or more of the Performance Criteria.

(d) Payment. Following the Committee's determination and certification in accordance with subsection (a) above, the earned Performance-Based Cash Award amount shall be paid to the Participant or his legal representative, in accordance with the terms and conditions set forth in the Performance-Based Cash Award agreement, but in no event, except as provided in the next sentence, shall such amount be paid later than the later of: (i) March 15 of the year following the year in which the applicable Performance Period ends (or, if later, the year in which the Award is earned); or (ii) two and one-half months after the expiration of the fiscal year of the Company in which the applicable Performance Period ends. Notwithstanding the foregoing, the Committee may place such conditions on the payment of all or any portion of any Performance-Based Cash Award as the Committee may determine and prior to the beginning of a Performance Period, the Committee may (A) provide that the payment of all or any portion of any Performance-Based Cash Award shall be deferred and (B) permit a Participant to elect to defer receipt of all or a portion of any Performance-Based Cash Award. Any Performance-Based Cash Award deferred by a Participant in accordance with the terms and conditions established by the Committee shall not increase (between the date on which the Performance-Based Cash Award is credited to any deferred compensation program applicable to such Participant and the payment date) by an amount that would result in such deferral being deemed as an "increase in the amount of compensation" under Section 162(m). To the extent applicable, any deferral under this Section 9.2(d) shall be made in a manner intended to comply with or be exempt from the applicable requirements of Section 409A. Notwithstanding the foregoing, the Committee may exercise negative discretion by

providing in a Performance-Based Cash Award the discretion to pay an amount less than otherwise would be provided under the applicable level of attainment of the performance goals.

(e) Termination. Unless otherwise determined by the Committee at the time of grant (or, if no rights of the Participant (or, in the case of his death, his estate) are reduced, thereafter), no Performance-Based Cash Award or pro rata portion thereof shall be payable to any Participant who incurs a Termination prior to the date such Performance-Based Cash Award is paid and the Performance-Based Cash Awards only shall be deemed to be earned when actually paid.

ARTICLE X

CHANGE IN CONTROL PROVISIONS

10.1 In the event of a Change in Control of the Company, except as otherwise provided by the Committee in an Award agreement or otherwise in writing, a Participant's unvested Award shall not vest and a Participant's Award shall be treated in accordance with one of the following methods as determined by the Committee:

(a) Awards, whether or not then vested, may be continued, assumed, have new rights substituted therefor or be treated in accordance with Section 4.2(d), and Restricted Stock or other Awards may, where appropriate in the discretion of the Committee, receive the same distribution as other Common Stock on such terms as determined by the Committee; provided that, the Committee may decide to award additional Restricted Stock or any other Award in lieu of any cash distribution. Notwithstanding anything to the contrary herein, any assumption or substitution of Incentive Stock Options shall be structured in a manner intended to comply with the requirements of Treasury Regulation §1.424-1 (and any amendments thereto).

(b) Awards may be canceled in exchange for an amount of cash equal to the Change in Control Price (as defined below) per share of Common Stock covered by such Awards), less, in the case of an Appreciation Award, the exercise price per share of Common Stock covered by such Award. The "**Change in Control Price**" means the price per share of Common Stock paid in the Change in Control transaction.

(c) Appreciation Awards may be cancelled without payment, if the Change in Control Price is less than the exercise price per share of such Appreciation Awards.

Notwithstanding anything else herein, the Committee may provide for accelerated vesting or lapse of restrictions, of an Award at any time.

ARTICLE XI

TERMINATION OR AMENDMENT OF PLAN

Notwithstanding any other provision of the Plan, the Board, or the Committee (to the extent permitted by law), may at any time, and from time to time, amend, in whole or in part, any or all of the provisions of the Plan (including any amendment deemed necessary or advisable to ensure that the Company may comply with any regulatory requirement referred to in Article XIII or Section 409A), or suspend or terminate it entirely, retroactively or otherwise; provided, however, that, unless otherwise required by law or specifically provided herein, the rights of a Participant with respect to Awards granted prior to such amendment, suspension or termination, may not be reduced in any material respect without the consent of such Participant and, provided further, without the approval of the holders of the Company's Common Stock entitled to vote in accordance with applicable law, no amendment may be made that would (a) increase the aggregate number of shares of Common Stock that may be issued under the Plan (except by operation of Section 4.2); (b) increase the maximum individual Participant limits under Section 4.1(b) (except by operation of Section 4.2); (c) change the classification of individuals eligible to receive Awards under the Plan; (d) extend the maximum term of Options; (e) alter the Performance Criteria; (f) other than adjustments or substitutions in accordance with Section 4.2, amend the terms of outstanding Awards to reduce the exercise price of outstanding Stock Options or Appreciation Awards, or cancel outstanding Stock Options or Appreciation Awards (where, prior to the reduction or cancellation, the exercise price exceeds the Fair Market Value on the date of cancellation) in

exchange for cash, other Awards or Stock Options or Appreciation Awards with an exercise price that is less than the exercise price of the original Stock Options or Appreciation Awards; or (g) otherwise require stockholder approval in order for the Plan or any of the Awards issued hereunder to continue to comply with applicable law (including Code Sections 162(m) and 422) or the rules of any applicable securities exchange or system on which the Company's securities are listed or traded at the request of the Company.

The Committee may amend the terms of any Award theretofore granted, prospectively or retroactively; provided that no such amendment reduces in any material respect the rights of any Participant without the Participant's consent. Actions taken by the Committee in accordance with Article IV shall not be deemed to reduce the rights of any Participant.

Notwithstanding anything herein to the contrary, the Board or the Committee may amend the Plan or any Award at any time without a Participant's consent to comply with Section 409A or any other applicable law.

ARTICLE XII

UNFUNDED PLAN

The Plan is intended to constitute an "unfunded" plan for incentive and deferred compensation. With respect to any payments as to which a Participant has a fixed and vested interest but which are not yet made to a Participant by the Company, nothing contained herein shall give any such Participant any rights that are greater than those of a general unsecured creditor of the Company.

ARTICLE XIII

GENERAL PROVISIONS

13.1 Legend.

The Committee may require each person receiving shares of Common Stock pursuant to an Award to represent to and agree with the Company in writing that the Participant is acquiring the shares without a view to distribution thereof and such other securities law related representations as the Committee shall request. In addition to any legend required by the Plan, the certificates or book entry accounts for such shares may include any legend that the Committee deems appropriate to reflect any restrictions on Transfer.

All certificates or book entry accounts for shares of Common Stock delivered under the Plan shall be subject to such stop transfer orders and other restrictions as the Committee may deem advisable under the rules, regulations and other requirements of the Securities and Exchange Commission, any stock exchange upon which the Common Stock is then listed or any national automated quotation system on which the Common Stock is then quoted, any applicable Federal or state securities law, and any applicable corporate law, and the Committee may cause a legend or legends to be put on any such certificates to make appropriate reference to such restrictions. If necessary or advisable in order to prevent a violation of applicable securities laws or to avoid the imposition of public company reporting requirements, then, notwithstanding anything herein to the contrary, any stock-settled Awards shall be paid in cash in an amount equal to the Fair Market Value on the date of settlement of such Awards.

13.2 Other Plans.

Nothing contained in the Plan shall prevent the Board from adopting other or additional compensation arrangements, subject to stockholder approval if such approval is required; and such arrangements may be either generally applicable or applicable only in specific cases.

13.3 No Right to Employment/Consultancy/Directorship.

Neither the Plan nor the grant of any Award thereunder shall give any Participant or other person any right to employment, consultancy or directorship by the Company or any Affiliate, or limit in any way the right of the Company or any Affiliate by which an employee is employed or a Consultant or Non-Employee Director is retained to terminate his employment, consultancy or directorship at any time.

13.4 Withholding of Taxes.

(a) The Company or any Affiliate shall have the right to deduct from any payment to be made pursuant to the Plan, or to otherwise require, prior to the issuance or delivery of any shares of Common Stock or the payment of any cash thereunder, payment by the Participant of, any Federal, foreign, state or local taxes required by law to be withheld. Upon the vesting of Restricted Stock (or other Award that is taxable upon vesting), or upon making an election under Section 83(b) of the Code, a Participant shall pay all required withholding to the Company or any Affiliate. Any statutorily required withholding obligation with regard to any Participant may be satisfied, subject to the consent of the Committee, by reducing the number of shares of Common Stock otherwise deliverable or by delivering shares of Common Stock already owned. Any fraction of a share of Common Stock required to satisfy such tax obligations shall be disregarded and the amount due shall be paid instead in cash by the Participant.

13.5 No Assignment of Benefits.

No Award or other benefit payable under the Plan shall, except as otherwise specifically provided in the Plan or permitted by the Committee, be Transferable in any manner, and any attempt to Transfer any such benefit shall be void, and any such benefit shall not in any manner be liable for or subject to the debts, contracts, liabilities, engagements or torts of any person who shall be entitled to such benefit, nor shall it be subject to attachment or legal process for or against such person.

13.6 Listing and Other Conditions.

(a) Unless otherwise determined by the Committee, as long as the Common Stock is listed on a national securities exchange or system sponsored by a national securities association, the issuance of shares of Common Stock pursuant to an Award shall be conditioned upon such shares being listed on such exchange or system. The Company shall have no obligation to issue such shares unless and until such shares are so listed, and the right to exercise any Stock Option or other Exercisable Award with respect to such shares shall be suspended until such listing has been effected.

(b) If at any time counsel to the Company shall be of the opinion that any offer or sale of Common Stock pursuant to an Award is or may be unlawful or prohibited, or will or may result in the imposition of excise taxes on the Company, under the statutes, rules or regulations of any applicable jurisdiction or under the rules of the national securities exchange on which the Common Stock then is listed, the Company shall have no obligation to make such offer or sale, or to make any application or to effect or to maintain any qualification or registration under the Securities Act or otherwise, with respect to the Common Stock or Awards, and the right to exercise any Stock Option or other Exercisable Award shall be suspended until, in the opinion of said counsel, such offer or sale shall be lawful, permitted or will not result in the imposition of excise taxes on the Company.

(c) Upon termination of any period of suspension under this Section 13.6, any Award affected by such suspension which shall not then have expired or terminated shall be reinstated as to all shares available before such suspension and as to shares which would otherwise have become available during the period of such suspension, but no such suspension shall extend the term of any Award.

(d) A Participant shall be required to supply the Company with certificates, representations and information that the Company requests and otherwise cooperate with the Company in obtaining any listing, registration, qualification, exemption, consent or approval the Company deems necessary or appropriate.

13.7 Governing Law.

The Plan and matters arising under or related to it shall be governed by and construed in accordance with the internal laws of the State of Delaware without giving effect to its principles of conflicts of laws.

13.8 Construction.

Wherever any words are used in the Plan in the masculine gender they shall be construed as though they were also used in the feminine gender in all cases where they would so apply. As used herein, (a) “or” shall

mean “and/or” and (b) “including” or “include” shall mean “including, without limitation.” Any reference herein to an agreement in writing shall be deemed to include an electronic writing to the extent permitted by applicable law.

13.9 No Acquired Rights.

In participating in the Plan, each Participant is deemed to acknowledge and accept that the Committee has the sole discretion to amend or terminate the Plan, to the extent permitted hereunder, at any time and that the opportunity given to a Participant to participate in the Plan is at the sole discretion of the Committee and does not obligate the Company or any Affiliate to offer such participation in the future (whether on the same or different terms). In participating in the Plan, each Participant is deemed further to acknowledge and accept that (i) such Participant’s participation in the Plan is not to be considered part of any normal or expected compensation, (ii) the value of Awards granted to a Participant shall not be used for purposes of determining any benefits or compensation payable to the Participant or the Participant’s beneficiaries or estate under any benefit arrangement of the Company or its Affiliates and (iii) the termination of the Participant’s employment with the Company or an Affiliate under any circumstance whatsoever will not give the Participant any claim or right of action against the Company or any of its Affiliates in respect of any lost rights under the Plan that may arise as a result of such termination of employment.

13.10 Data Protection.

By participating in the Plan, each Participant shall consent to the holding and processing of personal information provided by such Participant to the Company, any Affiliate, trustee or third-party service provider, for all purposes relating to the operation of the Plan. These include, but are not limited to: (i) administering and maintaining Participant records; (ii) providing information to the Company, Affiliates, trustees of any employee benefit trust, registrars, brokers or third-party administrators of the Plan; (iii) providing information to future purchasers or merger partners of the Company or any Affiliate, or the business in which the Participant works; and (iv) transferring personal information about the Participant to any country or territory that may not provide the same protection for the information as the Participant’s home country. Such personal information may include, without limitation, the Participant’s name, home address and telephone number, date of birth, social insurance number or other identification number, salary, nationality, job title, any shares or directorships held in the Company or an Affiliate and details of all Awards or other entitlement to shares awarded, canceled, exercised, vested, unvested or outstanding in a Participant’s favor.

13.11 Costs.

The Company shall bear all expenses associated with administering the Plan, including expenses of issuing Common Stock pursuant to any Awards.

13.12 No Right to Same Benefits.

The provisions of Awards need not be the same with respect to each Participant, and each Award to an individual Participant need not be the same.

13.13 Death/Disability.

The Committee may require the transferee of a Participant to supply it with written notice of the Participant’s death or Disability and to supply it with a copy of the will (in the case of the Participant’s death) or such other evidence as the Committee deems necessary or advisable to establish the validity of the transfer of an Award. The Committee also may require that the transferee agree to be bound by all of the terms and conditions of the Plan.

13.14 Section 16(b) of the Exchange Act.

All elections and transactions under the Plan by persons subject to Section 16 of the Exchange Act involving shares of Common Stock are intended to comply with any applicable exemptive condition under Rule 16b-3. The Committee may establish and adopt written administrative guidelines, designed to facilitate compliance with Section 16(b) of the Exchange Act, as it may deem necessary or advisable for the administration and operation of the Plan and the transaction of business thereunder.

13.15 Section 409A.

Although the Company does not guarantee to a Participant the particular tax treatment of any Award, all Awards are intended to comply with, or be exempt from, the requirements of Section 409A and the Plan and any Award agreement shall be limited, construed and interpreted in accordance with such intent. To the extent that any Award constitutes "non-qualified deferred compensation" pursuant to Section 409A (a "**Section 409A Covered Award**"), it is intended to be paid in a manner that will comply with Section 409A. In no event shall the Company be liable for any additional tax, interest or penalties that may be imposed on a Participant by Section 409A or for any damages for failing to comply with Section 409A. Notwithstanding anything in the Plan or in an Award to the contrary, the following provisions shall apply to Section 409A Covered Awards:

(a) A termination of employment shall not be deemed to have occurred for purposes of any provision of a Section 409A Covered Award providing for payment upon or following a termination of the Participant's employment unless such termination is also a "separation from service" within the meaning of Section 409A and, for purposes of any such provision of a Section 409A Covered Award, references to a "termination," "termination of employment" or like terms shall mean separation from service. Notwithstanding any provision to the contrary in the Plan or the Award, if the Participant is deemed on the date of the Participant's Termination to be a "specified employee" within the meaning of that term under Section 409A(a)(2)(B) of the Code and using the identification methodology selected by the Company from time to time, or if none, the default methodology set forth in Section 409A, then with regard to any such payment under a Section 409A Covered Award, to the extent required to be delayed in compliance with Section 409A(a)(2)(B) of the Code, such payment shall not be made prior to the earlier of (i) the expiration of the six-month period measured from the date of the Participant's separation from service, and (ii) the date of the Participant's death. All payments delayed pursuant to this Section 13.15(a) shall be paid to the Participant on the first day of the seventh month following the date of the Participant's separation from service or, if earlier, on the date of the Participant's death.

(b) With respect to any payment pursuant to a Section 409A Covered Award that is triggered upon a Change in Control, the settlement of such Award shall not occur until the earliest of (i) the Change in Control if such Change in Control constitutes a "change in the ownership of the corporation," a "change in effective control of the corporation" or a "change in the ownership of a substantial portion of the assets of the corporation," within the meaning of Section 409A(a)(2)(A)(v) of the Code, (ii) the date such Award otherwise would be settled pursuant to the terms of the applicable Award agreement and (iii) the Participant's "separation from service" within the meaning of Section 409A, subject to Section 13.15(a).

(c) For purposes of Code Section 409A, a Participant's right to receive any installment payments under the Plan or pursuant to an Award shall be treated as a right to receive a series of separate and distinct payments.

(d) Whenever a payment under the Plan or pursuant to an Award specifies a payment period with reference to a number of days (e.g., "payment shall be made within 30 days following the date of termination"), the actual date of payment within the specified period shall be within the sole discretion of the Company.

13.16 Successor and Assigns.

The Plan shall be binding on all successors and permitted assigns of a Participant, including the estate of such Participant and the executor, administrator or trustee of such estate.

13.17 Severability of Provisions.

If any provision of the Plan shall be held invalid or unenforceable, such invalidity or unenforceability shall not affect any other provisions hereof, and the Plan shall be construed and enforced as if such provisions had not been included.

13.18 Participants Subject to Taxation Outside the U.S.; No Tax Equalization.

With respect to a Participant who is subject to taxation in a country other than the United States, the Committee may grant Awards to such Participant on such terms and conditions as the Committee deems

appropriate to comply with the laws of the applicable country, and the Committee may create such procedures, addenda and subplans and make such modifications as may, in the Committee's discretion, be necessary or desirable to comply with such laws. Neither the Company nor any Affiliate shall have any responsibility to such Participant with respect to any taxes owed or owing in or to any jurisdiction that such Participant incurs as a result of receiving an Award and becoming a Participant in the Plan, nor shall the Company or any Affiliate provide any tax equalization payment to any Participant in respect of taxes owed or owing in or to any jurisdiction by a Participant.

13.19 Payments to Minors, Etc.

Any benefit payable to or for the benefit of a minor, an incompetent person or other person incapable of receipt thereof shall be deemed paid when paid to such person's guardian or to the party providing or reasonably appearing to provide for the care of such person, and such payment shall fully discharge the Committee, the Board, the Company, its Affiliates and their employees, agents and representatives with respect thereto.

13.20 Headings and Captions.

The headings and captions herein are provided for reference and convenience only, shall not be considered part of the Plan, and shall not be employed in the construction of the Plan.

13.21 Recoupment.

All Awards granted or other compensation paid by the Company under the Plan, including any shares of Common Stock issued under any Award thereunder, will be subject to: (i) any compensation recapture policies established by the Board or the Committee from time to time and in effect at the time of grant of the Award, and (ii) any compensation recapture policies to the extent required pursuant to any applicable law (including, without limitation, the Dodd-Frank Act) or the rules and regulations of any national securities exchange on which the shares of Common Stock are then traded.

13.22 Reformation.

If any provision regarding Detrimental Activity or any other provision set forth in the Plan or an Award agreement is found by any court of competent jurisdiction or arbitrator to be invalid, void or unenforceable or to be excessively broad as to duration, activity, geographic application or subject, such provision or provisions shall be construed, by limiting or reducing them to the extent legally permitted, so as to be enforceable to the maximum extent compatible with then applicable law.

13.23 Electronic Communications.

Notwithstanding anything else herein to the contrary, any Award agreement, notice of exercise of an Exercisable Award, or other document or notice required or permitted by the Plan or an Award that is required to be delivered in writing may, to the extent determined by the Committee, be delivered and accepted electronically. Signatures also may be electronic if permitted by the Committee. The term "written agreement" as used in the Plan shall include any document that is delivered and/or accepted electronically.

13.24 Agreement.

As a condition to the grant of an Award, if requested by the Company and the lead underwriter of any public offering of the Common Stock (the "**Lead Underwriter**"), a Participant shall irrevocably agree not to sell, contract to sell, grant any option to purchase, transfer the economic risk of ownership in, make any short sale of, pledge or otherwise transfer or dispose of, any interest in any Common Stock or any securities convertible into, derivative of, or exchangeable or exercisable for Common Stock, or any other rights to purchase or acquire Common Stock (except Common Stock included in such public offering or acquired on the public market after such offering) during such period of time following the effective date of a registration statement of the Company filed under the Securities Act that the Lead Underwriter shall specify (the "**Lock-up Period**"). The Participant shall further agree to sign such documents as may be requested by the Lead Underwriter to effect the foregoing and agree that the Company may impose stop-transfer instructions with respect to Common Stock acquired pursuant to an Award until the end of such Lock-up Period.

13.25 Defense of Trade Secrets Act.

Pursuant to 18 USC §1833(b), an individual may not be held criminally or civilly liable under any federal or state trade secret law for disclosure of a trade secret made: (i) in confidence to a government official, either directly or indirectly, or to an attorney, solely for the purpose of reporting or investigating a suspected violation of law; and/or (ii) in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. Additionally, an individual suing an employer for retaliation based on the reporting of a suspected violation of law may disclose a trade secret to his or her attorney and use the trade secret information in the court proceeding, so long as any document containing the trade secret is filed under seal and the individual does not disclose the trade secret except pursuant to court order.

ARTICLE XIV

EFFECTIVE DATE OF PLAN

The Plan was adopted by the Board on , 2017, effective on such date (the "**Effective Date**"). The Plan was approved by the stockholders of the Company on , 2017.

ARTICLE XV

TERM OF PLAN

No Award shall be granted on or after the tenth anniversary of the earlier of (a) the date the Plan is adopted by the Board or (b) the date of stockholder approval of the Plan, provided that Awards granted prior to such tenth anniversary may extend beyond that date in accordance with the terms of the Plan. The Company may seek stockholder reapproval of the Performance Criteria and to the extent that such stockholder approval is obtained no later than the first stockholder meeting that occurs in the fifth year following the year in which such stockholders previously approved the Performance Criteria, Awards (other than Stock Options or stock appreciation rights) may be based on such Performance Criteria in order to qualify for the "performance-based compensation" exception under Section 162(m) of the Code.

EXHIBIT A

PERFORMANCE CRITERIA

Performance goals established for purposes of the grant or vesting of performance-based Awards of Restricted Stock, Other Stock-Based Awards or Performance-Based Cash Awards that are intended to be "performance-based" under Section 162(m) shall be based on one or more of the following performance criteria ("**Performance Criteria**"):

(1) enterprise value or value creation targets;

(2) income or net income; operating income; net operating income or net operating income after tax; operating profit or net operating profit;

(3) cash flow including, but not limited to, from operations or free cash flow;

(4) specified objectives with regard to limiting the level of increase in all or a portion of bank debt or other long-term or short-term public or private debt or other similar financial obligations, or other capital structure improvements, which may be calculated net of cash balances or other offsets and adjustments as may be established by the Committee;

(5) net sales, revenues, net income or earnings before income tax or other exclusions;

(6) operating margin; return on operating revenue or return on operating profit;

(7) return measures (after tax or pre-tax), including return on capital employed, return on invested capital; return on equity, return on assets, return on net assets;

(8) market capitalization, earnings per share, fair market value of the shares of the Company's Shares, franchise value (net of debt), economic value added;

(9) total stockholder return or growth in total stockholder return (with or without dividend reinvestment);

(10) financing and other capital raising transactions;

(11) proprietary investment results;

(12) estimated market share;

(13) expansion of sales in additional geographies or markets;

(14) expense management/control or reduction (including without limitation, compensation and benefits expense);

(15) customer satisfaction;

(16) technological improvements/implementation, new product innovation;

(17) collections and recoveries;

(18) property/asset purchases;

(19) litigation and regulatory resolution/implementation goals;

(20) leases, contracts or financings (including renewals, overhead, savings, G&A and other expense control goals);

(21) risk management/implementation;

(22) development and implementation of strategic plans or organizational restructuring goals;

(23) development and implementation of risk and crisis management programs; compliance requirements and compliance relief; productivity goals; workforce management and succession planning goals;

(24) employee satisfaction or staff development;

(25) formations of joint ventures or partnerships or the completion of other similar transactions intended to enhance revenue or profitability or to enhance its customer base;

(26) licensing or partnership arrangements;

(27) progress of partnered programs and partner satisfaction;

(28) progress of internal research or development programs;

(29) submission of a new drug application ("**NDA**") or the approval of the NDA by the U.S. Food and Drug Administration ("**FDA**");

(30) submission of an investigational new drug application ("**IND**") or the approval of the IND by the FDA;

(31) submission of a therapeutic biologics license application ("**BLA**") or the approval of the BLA by the FDA;

(32) submission to, or approval by, a foreign regulatory body of an applicable filing or a product;

(33) strategic partnerships or transactions (including in-licensing and out-licensing of intellectual property;

(34) the achievement of a launch of a new drug;

(35) the initiation or completion of a clinical trial phase;

(36) implementation or completion of critical projects;

(37) achievement of specified milestones in the discovery and development of one or more of the Company's products;

(38) achievement of specified milestones in the commercialization of one or more of the Company's products;

(39) achievement of specified milestones in the manufacturing of one or more of the Company's products;

(40) the achievement of specified regulatory milestones relating to one or more of the Company's products; or

(41) completion of a merger, acquisition or any transaction that results in the sale of all or substantially all of the stock or assets.

All Performance Criteria may be based upon the attainment of specified levels of (or a specified increase or decrease in) the Company (or Affiliate, division, other operational unit, business segment or administrative department of the Company or any Affiliate) performance under one or more of the measures described above and may be measured relative to the performance of other corporations (or an affiliate, subsidiary, division, other operational unit, business segment or administrative department of another corporation or its affiliates). Any goal may be expressed as a dollar figure, on a percentage basis (if applicable) or on a per share basis, and goals may be either absolute, relative to a selected peer group or index, or a combination of both. To the extent permitted under Section 162(m), (including compliance with any requirements for stockholder approval), the Committee may: (i) designate additional business criteria on which the Performance Criteria may be based or (ii) adjust, modify or amend the aforementioned business criteria.

Except as otherwise determined by the Committee in the applicable Award agreement, the measures used in Performance Criteria set under the Plan shall be determined in accordance with generally accepted accounting principles ("**GAAP**") and in a manner consistent with the methods used in the Company's regular reports on Forms 10-K and 10-Q, without regard to any of the following unless otherwise determined by the Committee consistent with the requirements of Code Section 162(m)(4)(C) of the Code and the regulations thereunder:

(a) all items of gain, loss or expense for the fiscal year or other applicable performance period that are related to special, unusual or non-recurring items, events or circumstances affecting the Company (or Affiliate, division, other operational unit, business segment or administrative department of the Company or any Affiliate) or the financial statements of the Company (or Affiliate, division, other operational unit, business segment or administrative department of the Company or any Affiliate);

(b) all items of gain, loss or expense for the fiscal year or other applicable performance period that are related to (i) the disposal of a business or discontinued operations or (ii) the operations of any business acquired by the Company (or Affiliate, division, other operational unit, business segment or administrative department of the Company or any Affiliate) during the fiscal year or other applicable performance period; and

(c) all items of gain, loss or expense for the fiscal year or other applicable performance period that are related to changes in accounting principles or to changes in applicable law or regulations.

To the extent any Performance Criteria are expressed using any measures that require deviations from GAAP, such deviations shall be at the discretion of the Committee as exercised at the time the Performance Criteria are set, to the extent permitted under Section 162(m).

PHARMATHENE, INC.

2017 OMNIBUS INCENTIVE PLAN

UK ADDENDUM

1. Purpose

1.1 The purpose of this UK Addendum to the Plan is to enable the Committee to grant Awards (being Stock Options, Restricted Stock, Other Stock-Based Awards or Performance-Based Cash Awards) to certain employees and full-time directors of the Company who are based in the United Kingdom only.

1.2 Awards granted pursuant to the UK Addendum will be non-tax advantaged for UK tax purposes and, to the extent relevant, Awards are granted pursuant to an "*employee share scheme*" for the purposes of the Financial Services and Markets Act 2000.

2. Definitions

Any terms not defined in this UK Addendum will have the meaning set out in Article II of the Plan.

3. Terms

Awards granted pursuant to the UK Addendum shall be governed by the terms of the Plan, subject to any such amendments set out below and by the terms of the individual Award agreement entered into between the Company and the Participant.

4. Withholding Obligations

4.1 The Participant shall be accountable for any income tax and, subject to the following provisions, national insurance liability which is chargeable on any assessable income deriving from the grant, vesting, exercise, transfer or cancellation (whether for consideration or otherwise) of an Award, or in respect of any additional share or cash consideration acquired as a result of distribution of a dividend, or otherwise in respect of the exercise of an Award. In respect of such assessable income, the Participant shall indemnify the Company and (at the direction of the Company) any Affiliate which is or may be treated as the employer of the Participant in respect of the following (together, the "Tax Liabilities"):

(a) any income tax liability which falls to be paid to HMRC by the Company (or the relevant employing Affiliate) under the PAYE system as it applies to income tax under the Income Tax (Earnings and Pensions) Act 2003 ("**ITEPA**") and the Pay As You Earn ("**PAYE**") regulations referred to therein; and

(b) any national insurance liability which falls to be paid to HMRC by the Company (or the relevant employing Affiliate) under the PAYE system as it applies for national insurance purposes under the Social Security Contributions and Benefits Act 1992 and regulations referred to therein, including:

(i) all the employee's primary Class 1 national insurance contributions; and

(ii) to the extent permitted by law, all of the employer's secondary Class 1 national insurance contributions.

4.2 Pursuant to the indemnity referred to in clause 4.1 above, the Participant shall make such arrangements as the Company requires to meet the cost of the Tax Liabilities, including, at the direction of the Company, any of the following:

(a) making a cash payment of an appropriate amount to the relevant employing company whether by cheque, banker's draft or deduction from salary in time to enable the Company to remit such amount to HMRC before the 14th day following the end of the month in which the event giving rise to the Tax Liabilities occurred;

(b) appointing the Company as agent and/or attorney for the sale of sufficient Shares acquired pursuant to the exercise of any Stock Options or pursuant to the grant, exercise or vesting of an Award to cover the Tax Liabilities and authorising the payment to the relevant company of the appropriate amount (including all reasonable fees, commissions and expenses incurred by the relevant employing company in relation to such sale) out of the net proceeds of sale of such Shares; or

(c) to the extent permitted by law, entering into:

(i) an agreement that allows the Participant's employer to recover the whole or any portion of any employer's secondary Class 1 National Insurance Contributions in respect of the vesting or exercise of the Award from the Participant; or

(ii) an election whereby the employer's liability for secondary Class 1 national insurance contributions is transferred to the Participant on terms set out in the election, as approved by HMRC.

4.3 The failure by a Participant to make arrangements in line with clause 4.2 above at the request of the Company shall result in the vesting of such Award (other than an Exercisable Award) or the exercise of such Exercisable Award (as applicable) being ineffective, null and void.

5. Section 431 Elections

Where Shares to be acquired on the exercise or vesting of an Award are considered (at the sole discretion of the Company) to be "restricted securities" for the purposes of Part 7 of ITEPA, it is a condition of exercise that the Participant (if so directed by the Company) enter into a joint election with the Company (or, if different, the relevant employing Affiliate) pursuant to section 431 ITEPA electing that the market value of the shares to be acquired on the exercise or vesting of the Award be calculated as if the Shares were not "restricted securities".

Annex I

CERTIFICATE OF AMENDMENT TO

THE AMENDED AND RESTATED

CERTIFICATE OF INCORPORATION

OF

PHARMATHENE, INC.

(Pursuant to Section 242 of the
General Corporation Law of the State of Delaware)

Pursuant to Section 242 of the General Corporation Law of the State of Delaware, PharmAthene, Inc., a corporation organized and existing under the laws of the State of Delaware (the "Corporation"), does hereby certify as follows:

1. That the name of this corporation is PharmAthene, Inc., and that this corporation was originally incorporated pursuant to the General Corporation Law on April 25, 2005 under the name Healthcare Acquisition Corp.

2. That the Board of Directors of the Corporation duly adopted resolutions, pursuant to Section 242 of the General Corporation Law, proposing to amend the Amended and Restated Certificate of Incorporation of this corporation, as amended to date, declaring said amendments to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor.

3. That thereafter, the stockholders of the Corporation duly approved the following amendments to the Corporation's Amended and Restated Certificate of Incorporation, as previously amended:

Article FOURTH is hereby amended by adding the following to the end of the first paragraph:

"Effective as of [•], New York time, on [•], 2017 (the "Effective Time") each share of the Corporation's common stock, $0.0001 par value per share (the "Old Common Stock"), either issued or outstanding or held by the Corporation as treasury stock, immediately prior to the Effective Time, will be automatically reclassified as and converted (without any further act) into 1/[•] of a fully paid and nonassessable shares of common stock, $0.0001 par value per share, of the Corporation (the "New Common Stock") without increasing or decreasing the amount of stated capital or paid-in surplus of the Corporation (the "Reverse Stock Split"), provided that no fractional shares shall be issued to any registered holder of Old Common Stock immediately prior to the Effective Time, and that instead of issuing such fractional shares to such holders, such fractional shares shall be rounded up to the next even number of shares of Common Stock issued as a result of this Reverse Stock Split at no cost to the stockholder. Any stock certificate that, immediately prior to the Effective Time, represented shares of the Old Common Stock will, from and after the Effective Time, automatically and without the necessity of presenting the same for exchange, represent the number of shares of the New Common Stock as equals the product obtained by multiplying the number of shares of Old Common Stock represented by such certificate immediately prior to the Effective Time by 1/[•]."

4. That this Certificate of Amendment shall be effective [ ], 2017 at 5:00 P.M., eastern time.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be signed by its Chief Executive Officer on this [ ] day of [ ], 2017.

PHARMATHENE, INC.

By: _____
Name: John Gill
Title: Chief Executive Officer

PART II

INFORMATION NOT REQUIRED IN JOINT PROXY STATEMENT/PROSPECTUS

Item 20. Indemnification of Directors and Officers

PharmAthene is a Delaware corporation subject to the applicable indemnification provisions of the Delaware General Corporation Law or DGCL. Under Section 145 of the Delaware General Corporation Law, each director and officer of PharmAthene may be indemnified by PharmAthene against all expenses and liabilities (including attorney's fees, judgments, fines and amounts paid in settlement) actually or reasonably incurred in connection with the defense or settlement of any threatened, pending or completed legal proceedings in which he or she is involved by reason of the fact that he or she is or was a director or officer of PharmAthene if such director or officer acted in good faith and in a manner that he or she reasonably believed to be in or not opposed to the best interests of PharmAthene and, with respect to any criminal action or proceeding, if he or she had no reasonable cause to believe that his or her conduct was unlawful. If the legal proceeding, however, is by or in the right of PharmAthene, the director or officer may not be indemnified in respect of any claim, issue or matter as to which he or she shall have been adjudged to be liable to PharmAthene unless a court determines otherwise.

PharmAthene's Certificate of Incorporation limits the liability of its directors to the fullest extent permitted by the Delaware General Corporation Law. Specifically, Article VIII of PharmAthene's Certificate of Incorporation provides that no director of PharmAthene will be personally liable to PharmAthene or its stockholders for monetary damages for any breach of fiduciary duty by such a director as a director, except for liability (i) for any breach of the director's duty of loyalty to PharmAthene or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the Delaware General Corporation Law, or (iv) for any transaction from which such director derived an improper personal benefit. If the Delaware General Corporation Law is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of PharmAthene will be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law as so amended. No amendment to or repeal of Article VIII, Paragraph A will adversely affect any right or protection of a director of PharmAthene with respect to events occurring prior to the time of such repeal or modification.

PharmAthene's Certificate of Incorporation provides for indemnification of PharmAthene's directors and officers. Specifically, Article VIII provides that PharmAthene will indemnify, to the fullest extent authorized or permitted by Section 145 of the Delaware General Corporation Law, as the same exists or may thereafter be amended, all persons whom it may indemnify pursuant thereto.

The Merger Agreement provides that the combined company will continue to indemnify and hold harmless each present and former director or officer of PharmAthene, with respect to acts or omissions occurring or alleged to have occurred at or prior to completion of the merger, including advancing expenses, to the fullest extent permitted under applicable law and PharmAthene's Certificate of Incorporation or Bylaws. The Merger Agreement also provides that the combined company will honor all indemnification agreements in place with each present and former director or officer of PharmAthene. The Merger Agreement provides that the combined company will continue to indemnify and hold harmless each present and former director, officer, or employee of Altimmune, with respect to acts or omissions occurring or alleged to have occurred at or prior to completion of the merger, including advancing expenses, to the fullest extent allowed by applicable law. In addition, all rights to indemnification with respect to acts or omissions occurring at or prior to completion of the mergers existing in favor of each present and former director, officer, or employee of Altimmune as provided in Altimmune's Certificate of Incorporation, Altimmune's Bylaws, or indemnification agreements will remain in effect. The Merger Agreement also provides that, prior to completion of the merger, Altimmune will purchase and maintain for a period of six years following completion of the merger, a directors' and officers' liability "tail" insurance policy covering the present and former directors and officers of PharmAthene and Altimmune for events occurring prior to completion of the merger. Such policy must contain terms no less favorable than the policies maintained by PharmAthene and Altimmune prior to completion of the mergers.

PharmAthene has entered into agreements with its directors and officers regarding indemnification, in addition to indemnification provided for in PharmAthene's Certificate of Incorporation, Bylaws and the

Delaware General Corporation Law and intends to enter into indemnification agreements with any new directors and officers in the future. Under these agreements, PharmAthene is required to indemnify its current and former directors and officers against expenses, judgments, penalties, fines, settlements and other amounts actually and reasonably incurred, including expenses of a derivative action, in connection with an actual or threatened proceeding if any of them may be made a party because he or she is or was one of PharmAthene's directors or officers. PharmAthene will be obligated to pay these amounts only if the director or officer acted in good faith and in a manner that he or she reasonably believed to be in or not opposed to PharmAthene's best interests. With respect to any criminal proceeding, PharmAthene will be obligated to pay these amounts only if the director or officer had no reasonable cause to believe his or her conduct was unlawful. The indemnification agreements also set forth procedures that will apply in the event of a claim for indemnification.

PharmAthene maintains an insurance policy for its directors and officers pursuant to which its directors and officers are insured against liability for certain actions in their capacity as directors and officers of PharmAthene.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to PharmAthene's directors, officers or persons controlling PharmAthene pursuant to the foregoing provisions, PharmAthene is aware that in the opinion of the Securities and Exchange Commission that this indemnification is against public policy as expressed in the Securities Act of 1933 and is therefore unenforceable.

Item 21. Exhibits and Financial Statement Schedules

(a) Exhibits Index.

See exhibit index immediately following the signature page to this Registration Statement on Form S-4, which is incorporated herein by reference.

(b) Financial Statement Schedules.

Not applicable.

(c) Report, Opinion or Appraisals

Not applicable.

Item 22. Undertakings

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) to include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Securities and Exchange Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

(2) That, for the purpose of determining liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining any liability under the Securities Act to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness; provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(c) The undersigned registrant undertakes as follows:

(1) That prior to any public reoffering of the securities registered hereunder through use of a prospectus which is a part of this registration statement, by any person or party who is deemed to be an underwriter within the meaning of Rule 145(c), the issuer undertakes that such reoffering prospectus will contain the information called for by the applicable registration form with respect to reofferings by persons who may be deemed underwriters, in addition to the information called for by the other Items of the applicable form.

(2) That every prospectus (i) that is filed pursuant to paragraph (1) immediately preceding, or (ii) that purports to meet the requirements of Section 10(a)(3) of the Securities Act of 1933 and is used in connection with an offering of securities subject to Rule 415, will be filed as a part of an amendment to the registration statement and will not be used until such amendment is effective, and that, for purposes of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(d) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

(e) The undersigned registrant hereby undertakes to respond to requests for information that is incorporated by reference into the prospectus pursuant to Items 4, 10(b), 11 or 13 of this form, within one business day of receipt of such request, and to send the incorporated documents by first-class mail or other equally prompt means. This includes information contained in documents filed subsequent to the effective date of the registration statement through the date of responding to the request.

(f) The undersigned registrant hereby undertakes to supply by means of a post-effective amendment all information concerning a transaction, and the company being acquired involved therein, that was not the subject of and included in the registration statement when it became effective.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Annapolis, State of Maryland on March 31, 2017.

PHARMATHENE, INC.

By: /s/ John M. Gill
John M. Gill
Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, as amended, this Amendment No. 2 to the registration statement has been signed by the following persons in the capacities indicated, on March 31, 2017.

Signature	Title
/s/ John M. Gill John M. Gill	President, Chief Executive Officer and Director (Principal Executive Officer)
/s/ Philip MacNeill Philip MacNeill	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)
* Mitchel Sayare, Ph.D.	Chairman of the Board
* Derace L. Schaffer, MD	Director
* Jeffrey W. Runge, M.D.	Director
* Eric I. Richman	Director
* Steven St. Peter, M.D.	Director

*By: /s/ John M. Gill
John M. Gill
Attorney-in-fact

PHARMATHENE, INC.
EXHIBIT INDEX TO REGISTRATION STATEMENT ON FORM S-4 EXHIBIT INDEX

Exhibit No.	Exhibit Description	Incorporated by Reference				Filed/ Furnished Herewith
		Form	Exhibit No.	File No.	Filing Date	
2.1#	Sale and Purchase Agreement, dated March 20, 2008, by and among PharmAthene, Inc. and Avecia Investments Limited, Avecia Biologics Limited and Avecia Biologics, Inc.	8-K	2.1	001-32587	03/26/2008	
2.2	Amendment Agreement, dated April 2, 2008, by and among, PharmAthene, Inc., PharmAthene UK Limited and PharmAthene US Corporation and Avecia Investments Limited, Avecia Biologics Limited and Avecia Biologics, Inc.	8-K	2.1	001-32587	04/08/2008	
2.3	Agreement and Plan of Merger and Reorganization dated as of January 18, 2017, by and among PharmAthene, Inc., Mustang Merger Sub, Inc., Mustang Merger Sub LLC, Altimmune, Inc. and Shareholder Representative Services LLC, as representative of Altimmune Securityholders (included as Annex A to the proxy statement/prospectus/consent solicitation).					X
2.4	Amendment No 1. to Agreement and Plan of Merger dated as of March 29, 2017, by and among PharmAthene, Inc., Mustang Merger Sub, Inc., Mustang Merger Sub LLC, Altimmune, Inc. and Shareholder Representative Services LLC, as representative of Altimmune Securityholders (included as Annex A to the proxy statement/prospectus/consent solicitation).					X
3.1	Amended and Restated Certificate of Incorporation of PharmAthene, Inc., as amended.	8-K	3.1	001-32587	11/04/2009	
3.1.1	Certificate of Designation, as filed with the State of Delaware on November 25, 2015.	8-K	3.1	001-32587	11/25/2015	
3.2*	PharmAthene, Inc. By-laws, as amended.					

Exhibit No.	Exhibit Description	Incorporated by Reference				Filed/ Furnished Herewith
		Form	Exhibit No.	File No.	Filing Date	
4.1	PharmAthene, Inc. Specimen Common Stock Certificate.	8-K/A	4.2	001-32587	09/24/2007	
5.1*	Opinion of Dentons US LLP.					
8.1*	Opinion of Dentons US LLP regarding tax matters.					
8.2*	Opinion of Proskauer Rose LLP regarding tax matters.					
10.1	Controlled Equity Offering SM Sales Agreement between PharmAthene, Inc. and Cantor Fitzgerald & Co. dated March 25, 2013.	8-K	10.1	001-32587	03/25/2013	
10.2	Amendment No. 1 to Controlled Equity Offering Sales Agreement, dated May 23, 2014, between PharmAthene, Inc. and Cantor Fitzgerald & Co.	S-3	1.2	333-196265	05/23/2014	
10.3	Form of Registration Rights Agreement among PharmAthene, Inc. and the Initial Stockholders of Healthcare Acquisition Corp.	S-1	10.4	333-124712	05/06/2005	
10.4	Form of Registration Rights Agreement by and among Healthcare Acquisition Corp. and the former stockholders and note holders of PharmAthene, Inc.	8-K	10.1	001-32587	01/22/2007	
10.5	PharmAthene, Inc. Amended and Restated 2007 Long-Term Incentive Compensation Plan.	14A	Appendix B	001-32587	05/15/2008	
10.6†	Office Lease, dated September 14, 2006, by and between PharmAthene, Inc. and Park Place Trust, as amended by First Amendment to Office Lease, dated January 22, 2007.	8-K/A	10.28	001-32587	09/24/2007	
10.7	Second Amendment to Office Lease, by and between PharmAthene, Inc. and Park Place Trust, dated September 16, 2008.	10-K	10.26.2	001-32587	03/31/2011	
10.8++	Form of PharmAthene Inc. Executive Employment Agreement.	10-Q	10.30	001-32587	08/14/2008	
10.8.1++	Amendment to Employment Agreement, dated as of December 23, 2010, between PharmAthene, Inc. and Eric I. Richman.	8-K	10.1	001-32587	12/30/2010	

Exhibit No.	Exhibit Description	Incorporated by Reference				Filed/ Furnished Herewith
		Form	Exhibit No.	File No.	Filing Date	
10.8.2++	Form of PharmAthene, Inc. Executive Restricted Stock Award Agreement.	10-Q	10.30.6	001-32587	05/11/2011	
10.8.3++	Form of PharmAthene, Inc. Executive Stock Option Agreement.	10-Q	10.30.7	001-32587	05/11/2011	
10.8.4++	Form of PharmAthene, Inc. Director Stock Option Agreement.	10-Q	10.30.8	001-32587	05/11/2011	
10.8.5++	Employment Agreement, dated February 7, 2012, by and between Linda Chang and PharmAthene, Inc.	10-K	10.30.10	001-32587	03/08/2012	
10.8.6++	Employment Agreement, dated April 18, 2008, by and between Francesca Cook and PharmAthene, Inc.	10-Q	10.62	001-32587	05/08/2013	
10.8.7++	Employment Agreement, dated April 18, 2008, by and between Wayne Morges and PharmAthene, Inc.	10-K	10.30.2	001-32587	03/26/2010	
10.8.8++	Employment Agreement, dated November 5, 2015, by and between John M. Gill and PharmAthene, Inc.	10-K	10.30.13	001-32587	03/11/2016	
10.8.9++	Separation Agreement and General Release and Waiver, dated March 9, 2015, by and between Francesca Cook and PharmAthene, Inc.	10-Q	10.30.13	001-32587	05/07/2015	
10.8.10++	Separation Agreement and General Release and Waiver, dated March 16, 2015, by and between Eric Richman and PharmAthene, Inc.	10-Q	10.30.14	001-32587	05/07/2015	
10.8.11++	Separation Agreement and General Release and Waiver, dated March 31, 2015, by and between Wayne Morges, Ph.D. and PharmAthene, Inc.	10-Q	10.30.15	001-32587	05/07/2015	
10.8.12++	Separation Agreement and General Release and Waiver, dated April 30, 2015, by and between Linda Chang and PharmAthene, Inc.	10-Q	10.30.16	001-32587	05/07/2015	
10.9	Form of PharmAthene Inc. Confidentiality and Non-Solicitation Agreement.	10-Q	10.31	001-32587	08/14/2008	

Exhibit No.	Exhibit Description	Incorporated by Reference				Filed/ Furnished Herewith
		Form	Exhibit No.	File No.	Filing Date	
10.10†	Contract with the National Institutes of Health for the Production and Testing of Anthrax Recombinant Protective Antigen (rPA) Vaccine (#N01-AI-30052), or NIH Prime Contract-Anthrax, dated September 29, 2003.	10-K	10.44	001-32587	03/31/2009	
10.11†	Amendments 1 through 13 to the NIH Prime Contract-Anthrax.	10-K	10.45	001-32587	03/31/2009	
10.11.1†	Modification (Amendment) 18 to the Contract with the National Institutes of Health for the Production and Testing of Anthrax Recombinant Protective Antigen (rPA) Vaccine (HHSO100200900203C).	10-Q	10.45.2	001-32587	05/13/2010	
10.12	Form of PharmAthene, Inc. Indemnification Agreement.	8-K	10.45	001-32587	01/27/2009	
10.13	Form of Note and Warrant Purchase Agreement, dated as of July 24, 2009, by and among PharmAthene, Inc. and the investors signatories thereto, as amended by Amendment No. 1 to Note and Warrant Purchase Agreement, dated as of July 26, 2009 and Amendment No. 2 to Note and Warrant Purchase Agreement, dated as of July 28, 2009.	8-K/A	10.50	001-32587	08/03/2009	
10.14	Form of Registration Rights Agreement, dated as of July 28, 2009 by and among PharmAthene, Inc. and the investors signatories thereto.	8-K/A	10.51	001-32587	08/03/2009	
10.15	Form of Securities Purchase Agreement, dated as of April 7, 2010, between PharmAthene, Inc. and the Purchasers party thereto.	8-K	10.1	001-32587	04/08/2010	
10.16	Form of Securities Purchase Agreement, dated as of July 20, 2010, between PharmAthene, Inc. and the Purchasers party thereto.	8-K	10.1	001-32587	07/20/2010	
10.17	Form of Subscription Agreement, dated as of June 10, 2011, between PharmAthene, Inc. and the Investors party thereto.	8-K	10.1	001-32587	06/10/2011	
10.18	Loan and Security Agreement, dated March 30, 2012, between General Electric Capital Corporation.	8-K	10.1	001-32587	04/03/2012	

Exhibit No.	Exhibit Description	Incorporated by Reference				Filed/ Furnished Herewith
		Form	Exhibit No.	File No.	Filing Date	
10.19	Contract with the National Institute of Allergy and Infectious Diseases of the National Institutes of Health for the Development of Vaccine Formulations Effective Against NIAID Priority Pathogens, dated September 9, 2014 (Contract No. HHSN272201400040C).	10-Q/A	10.61	001-32587	11/22/2016	
10.20	Form of PharmAthene Voting Agreement dated as of January 18, 2017 (included as Annex B to the proxy statement/prospectus/consent solicitation).					X
10.21	Form of PharmAthene Lock-Up Agreement dated as of January 18, 2017 (included as Annex C to the proxy statement/prospectus/consent solicitation).					X
10.22	Form of Altimmune Lock-Up Agreement dated as of January 18, 2017 (included as Annex E to the proxy statement/prospectus/consent solicitation).					X
10.23++*	Phillip MacNeill Retention and Severance Agreement.					
10.24	Form of Altimmune Voting Agreement dated as of January 19, 2017 (included as Annex D to the proxy statement/prospectus/consent solicitation).					X
21.1	Subsidiaries.	10-K	21	001-32587	03/11/2016	
23.1*	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm					
23.2*	Consent of BDO USA, LLP, independent registered public accounting firm					
23.3*	Consent of BDO LLP, independent accountants					
23.4*	Consent of Dentons US LLP (included in Exhibit 5.1 hereto).					
23.5*	Consent of Dentons US LLP regarding tax matters (included in Exhibit 8.1 hereto)					
23.6*	Consent of Proskauer Rose LLP regarding tax matters (included in Exhibit 8.2 hereto)					

Exhibit No.	Exhibit Description	Incorporated by Reference				Filed/ Furnished Herewith
		Form	Exhibit No.	File No.	Filing Date	
24.1*	Power of Attorney (included on the signature page to this Registration Statement)					
99.1*	Form of Proxy Card for PharmAthene, Inc. Special Meeting of Stockholders					
99.2*	Form of Written Consent for Altimmune, Inc. Stockholders					
99.3*	Opinion of Houlihan Lokey Capital, Inc., financial advisor to PharmAthene, Inc. (included as Annex FA to the proxy statement/prospectus/consent solicitation).					
99.4	Consent of Houlihan Lokey Capital, Inc.					X
99.5*	Consent of William Enright to serve as director.					
99.6*	Consent of David J. Drutz to serve as director.					
99.7*	Consent of Philip Hodges to serve as director.					
99.8*	Consent of Klaus Schafer to serve as director.					

* Previously filed.

\# Exhibits and schedules to this exhibit have been omitted pursuant to Item 601(b)(2) of Regulation S-K. PharmAthene will furnish the omitted exhibits and schedules to the Securities and Exchange Commission upon request by the Securities and Exchange Commission.

† Confidential treatment under Rule 24b-2 of the Securities Exchange Act of 1934, as amended, has been granted with respect to designated portions of this document.

++ Management Contract

Exhibit 99.4

March 31, 2017

The Board of Directors of PharmAthene, Inc.
One Park Place
Suite 450
Annapolis, Maryland 21404

Re: Amendment No. 2 to Registration Statement on Form S-4 of PharmAthene, Inc. (the "Company") (File No. 333-215891)

Dear Company:

Reference is made to our opinion letter ("opinion"), dated January 18, 2017.

Our opinion was provided for the information and assistance of the Board of Directors of the Company in connection with its evaluation of the transaction contemplated therein and may not be used, circulated, quoted or otherwise referred to for any other purpose, nor is it to be filed with, included in or referred to in whole or in part in any registration statement, proxy statement or any other document, except, in each instance, in accordance with our prior written consent. We understand that the Company has determined to include our opinion in the above-referenced Registration Statement.

In that regard, we hereby consent to the reference to our opinion in the above-referenced Registration Statement on Form S-4 under the captions "Summary - Opinion of the Financial Advisor to PharmAthene," "The Mergers - Background of the Mergers," "The Mergers - PharmAthene Reasons for the Mergers" and "The Mergers - Opinion of the Financial Advisor to PharmAthene" and to the inclusion of our opinion in the Proxy Statement/Prospectus/Consent Solicitation included in the Registration Statement, appearing as Annex FA to such Proxy Statement/Prospectus/Consent Solicitation. Notwithstanding the foregoing, it is understood that our consent is being delivered solely in connection with the filing of the above-mentioned version of the Registration Statement and that our opinion is not to be used, circulated, quoted or otherwise referred to for any other purpose, nor is it to be filed with, included in or referred to in whole or in part in any registration statement (including any subsequent amendments to the above-mentioned Registration Statement), proxy statement or any other document, except, in each instance, in accordance with our prior written consent.

In giving such consent, we do not thereby admit that we are experts with respect to any part of such Registration Statement within the meaning of the term "expert" as used in, or that we come within the category of persons whose consent is required under, the Securities Act of 1933, as amended, or the rules and regulations of the Securities and Exchange Commission promulgated thereunder.

Very truly yours,

/S/ HOULIHAN LOKEY CAPITAL, INC.

HOULIHAN LOKEY CAPITAL, INC.