

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, DC

FORM S-3

Registration Statement Under the Securities Act of 1933

PHARMATHENE, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

20-2726770
(I.R.S. Employer
Identification No.)

**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)

**With a copy to:
Jeffrey A. Baumel, Esq.
Dentons US LLP
1221 Avenue of the Americas
New York, New York 10020-1089
(212) 768-6700**

**Approximate date of commencement of proposed sale to the public:
From time to time after the effective date of this Registration Statement.**

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

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

If this Form is a post-effective amendment filed pursuant to Rule 462(c) 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.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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 the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

- | | | |
|--|--------------------------|---------------------------|
| <input type="checkbox"/> Large Accelerated Filer | x | Accelerated Filer |
| <input type="checkbox"/> Non-Accelerated filer (Do not check if a smaller reporting company) | <input type="checkbox"/> | Smaller reporting company |

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities To Be Registered	Amount to be registered (1)	Proposed maximum offering price per unit (1)	Proposed Maximum Aggregate Offering Price (1)(2)	Amount of Registration Fee (2)
Common Stock, par value \$0.0001 per share (3)	—	—	—	—

Preferred Stock, par value \$0.0001 per share (3)	—	—	—	—
Warrants (4)	—	—	—	—
Total	—	—	\$ 100,000,000	\$ 11,590

(1) There are being registered an indeterminate number of securities as shall have an aggregate offering price not to exceed \$100,000,000. The securities registered hereunder may be sold separately or with other securities registered hereunder. The proposed maximum aggregate offering price per class of security will be determined from time to time by the registrant in connection with the issuance by the registrant of the securities registered under this registration statement and is not specified as to each class of security being registered under this registration statement pursuant to General Instruction II.D. of Form S-3 under the Securities Act of 1933, as amended (the "Securities Act").

(2) The proposed maximum offering price has been estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(o) under the Securities Act.

(3) Subject to note 1 above, there is being registered hereunder an indeterminate number of shares of common and preferred stock of the registrant as may be sold from time to time by the registrant. Pursuant to Rule 416 under the Securities Act, the shares being registered hereunder include such indeterminate number of shares of common and preferred stock as may be issuable from time to time with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions. Pursuant to Rule 457(i) under the Securities Act, the shares being registered hereunder include such indeterminate number of shares of common and preferred stock as may be issuable from time to time upon conversion, exercise or exchange of any preferred stock or warrants issued under this registration statement.

(4) Subject to note 1 above, there is being registered hereunder an indeterminate number of warrants to purchase common stock or preferred stock of one or more series. Pursuant to Rule 457(i) under the Securities Act, the warrants being registered hereunder include such indeterminate number of warrants as may be issuable upon conversion or exchange of any preferred stock issued under this registration statement.

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 Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the Registration Statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state or jurisdiction where the offer or sale is not permitted.

Subject to Completion, Dated March 30, 2017

PROSPECTUS

\$100,000,000

PharmAthene, Inc.

**Common Stock
Preferred Stock
Warrants**

From time to time, we may offer and sell common stock, preferred stock or warrants or any combination of those securities, either individually or in units, in one or more offerings. The aggregate public offering price of the securities offered by us pursuant to this prospectus will not exceed \$100,000,000.

This prospectus provides you with a general description of the securities that we may offer. Each time we offer securities, we will provide a supplement to this prospectus that will contain more specific information about the terms of that offering, including the prices at which those securities will be sold. We may also add, update or change in the prospectus supplement any of the information contained in this prospectus.

The securities offered by us pursuant to this prospectus may be sold directly to investors, through agents, underwriters or dealers as designated from time to time, through a combination of these methods or in any other manner as described under the heading "Plan of Distribution" and in the corresponding section in the applicable prospectus supplement. Each time we offer securities, the relevant prospectus supplement will provide the specific terms of the plan of distribution for such offering and the net proceeds that we expect to receive from such offering.

Our common stock is listed on the NYSE MKT under the trading symbol "PIP." Each prospectus supplement will indicate if the securities offered pursuant to that supplement will be listed on any securities exchange.

This prospectus may not be used to sell any of our securities unless accompanied by a prospectus supplement.

Investing in our securities involves certain risks. You should carefully read both this prospectus and the applicable prospectus supplement, as well as any documents incorporated by reference in this prospectus and/or the applicable prospectus supplement, before you make your investment decision. See "Risk Factors" beginning on page 4 of this prospectus and contained in other documents that are incorporated by reference in this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2017.

TABLE OF CONTENTS

<u>ABOUT THIS PROSPECTUS</u>	1
<u>SUMMARY</u>	2
<u>RISK FACTORS</u>	4
<u>SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	5
<u>USE OF PROCEEDS</u>	7
<u>DESCRIPTION OF COMMON STOCK</u>	7
<u>DESCRIPTION OF PREFERRED STOCK</u>	7
<u>DESCRIPTION OF WARRANTS</u>	10
<u>PLAN OF DISTRIBUTION</u>	12
<u>LEGAL MATTERS</u>	14
<u>EXPERTS</u>	14
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	14
<u>INCORPORATION BY REFERENCE</u>	14

ABOUT THIS PROSPECTUS

You should rely only on the information contained or incorporated by reference in this prospectus and any applicable prospectus supplements. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information in this prospectus is accurate as of the date appearing on the front cover of this prospectus only and that information contained in any prospectus supplement or document incorporated by reference in this prospectus is only accurate as of the date of such prospectus supplement or document. Our business, financial condition, results of operations and prospects may have subsequently changed.

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or SEC, to register an indeterminate number of shares of common stock, preferred stock and warrants as may from time to time be offered for sale, either individually or in units, at indeterminate prices (up to an aggregate maximum offering price for all such securities of \$100,000,000), using a “shelf” registration process. By using a shelf registration statement, we may offer and sell from time to time in one or more offerings the securities described in this prospectus.

This prospectus provides you with some of the general terms that may apply to an offering of our securities. Each time we sell securities under this shelf registration we will provide a prospectus supplement that will contain specific information about the terms of that specific offering, including the number and price (or exercise price) of the securities to be offered and sold in that offering and the specific manner in which such securities may be offered. The prospectus supplement may also add to, update or change any of the information contained in this prospectus. To the extent there is a conflict between the information contained in this prospectus, on the one hand, and the information contained in the applicable prospectus supplement, on the other hand, you should rely on the information in the prospectus supplement.

You should carefully read both this prospectus and the applicable prospectus supplement, as well as any documents incorporated by reference in this prospectus (as described under the heading “Incorporation by Reference”) and/or the applicable prospectus supplement, before you make your investment decision. The information incorporated by reference includes important business and financial information about us that is not included nor delivered with this document. This information is available without charge on the SEC’s website at www.sec.gov or upon written or oral request to PharmAthene, Inc., One Park Place, Suite 450, Annapolis, MD 21401, (410) 269-2600. If any statement in this prospectus, the applicable prospectus supplement or any document incorporated by reference into one of these documents is inconsistent with a statement in another of those document having a later date, the statement in the document having the later date modifies or supersedes the earlier statement.

Unless otherwise mentioned or unless the context requires otherwise, all references to “PharmAthene,” “the Company,” “we,” “us,” “our,” and similar terms refer to PharmAthene, Inc. and its subsidiaries on a consolidated basis. The phrase “this prospectus” refers to this prospectus and any applicable prospectus supplement, unless the context otherwise requires. Whenever we refer to “you” or “yours”, we mean the persons to whom offers are made under this prospectus.

SUMMARY

We are a biodefense company engaged in developing next generation anthrax vaccine. These next generation vaccines are 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 September 9, 2014, we signed a contract with the National Institutes of Allergy and Infectious Diseases (“NIAID”) for the development of a next generation lyophilized anthrax vaccine (“SparVax-L”) based on the Company’s proprietary technology platform which contributes the recombinant protective antigen (“rPA”) bulk drug substance that is used in the liquid SparVax® formulation. The contract is incrementally funded. Over the base period of the contract, we were awarded initial funding of approximately \$5.2 million, which includes a cost reimbursement component and a fixed fee component payable upon achievement of certain milestones. NIAID has exercised four options under this agreement to provide additional funding of approximately \$8.8 million and an extension of the period of performance through December 31, 2017. The contract has a total value of up to approximately \$28.1 million, if all technical milestones are met and all eight contract options are exercised by NIAID. If NIAID exercises all options, the contract would last approximately five years. If NIAID does not exercise any additional options, the contract would expire by its terms on December 31, 2017.

From 2006 through 2016, we were engaged in legal proceedings with SIGA Technologies, Inc. (“SIGA”). On December 23, 2015, the Delaware Supreme Court affirmed the Delaware Court of Chancery’s judgment against SIGA. On November 16, 2016, the Company received a final payment from SIGA which fully satisfied the judgment owed to PharmAthene. In total, the Company received payment of approximately \$217.1 million (including interest) from SIGA.

On November 17, 2016, PharmAthene declared a special one-time cash dividend of \$2.91 per share of common stock. PharmAthene funded the one-time special dividend with approximately 98% of the after tax net cash proceeds that PharmAthene received from SIGA in satisfaction of the judgment owed to PharmAthene. On February 3, 2017, PharmAthene paid the one-time dividend in an aggregate amount of \$200.3 million.

The receipt of the award from SIGA generated substantial taxable income to the Company, a portion of which was offset by the Company’s tax net operating loss carryforwards (“NOLs”). At December 31, 2016, we had available \$176.1 million in accumulated domestic losses available to offset income, subject to limitations imposed by the Internal Revenue Code of 1986 (the “Code”) and a 382 limitation of approximately \$1 million, of which approximately \$175 million was utilized to offset current year income. On November 25, 2015, the Company had adopted a Shareholders Rights Plan to help ensure that the NOLs remained available to help maximize the value for our shareholders of any amount received from the SIGA litigation.

On January 18, 2017, PharmAthene entered into an Agreement and Plan of Merger and Reorganization (as amended from time to time, the “Merger Agreement”), pursuant to which Altimmune, Inc. (“Altimmune”) will merge into Mustang Merger Sub Corp I Inc., a Delaware corporation and a direct wholly owned subsidiary of PharmAthene (“Merger Sub Corp”), with Altimmune as the surviving entity in such merger (“Merger 1”), and immediately thereafter, Altimmune will be merged with and into Mustang Merger Sub II LLC, a Delaware limited liability company and a direct wholly owned subsidiary of PharmAthene (“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, former PharmAthene security holders will own approximately 41.8% of the outstanding equity of the combined company, and former 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. Following the anticipated consummation of the Mergers, PharmAthene will change its name to “Altimmune, Inc.”.

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).

Altimune is a privately-held clinical stage immunotherapeutics company focused on the development of products to stimulate robust and durable immune responses for the prevention and treatment of disease. Altimune 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, Altimune has generated clinical product candidates which potentially represent an entirely new approach to harnessing the immune system. Altimune'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. Altimune's planned Phase 2 program for NasoVAX is expected to start in third quarter of 2017, with initial data anticipated approximately six months following the start of enrollment. Altimune'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"), Altimune 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, Altimune anticipates launching a Phase 1 trial for NasoShield in the first quarter of 2018. The combined company will be a fully-integrated and diversified immunotherapeutics company with one preclinical stage and four clinical stage programs.

Our executive offices are located at One Park Place, Suite 450, Annapolis, Maryland 21401 and our telephone number is (410) 269-2600. After the consummation of the Mergers, our executive offices will be located at 19 Firstfield Road, Suite 200, Gaithersburg, Maryland 20878.

RISK FACTORS

Before you invest in any of our securities, in addition to the other information in this prospectus and the applicable prospectus supplement, you should carefully consider the risk factors under the heading “Risk Factors” contained in Part I, Item 1A in our most recent Annual Report on Form 10-K and any risk factors disclosed under the heading “Risk Factors” in Part II, Item 1A in any Quarterly Report on Form 10-Q or in any Current Report on Form 8-K that we file after our most recent Annual Report on Form 10-K, which are incorporated by reference into this prospectus and the applicable prospectus supplement, as the same may be updated from time to time by our future filings under the Exchange Act.

The risks and uncertainties we describe are not the only ones facing us. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business or operations. Any adverse effect on our business, financial condition or operating results could result in a decline in the value of the securities and the loss of all or part of your investment.

SPECIAL NOTE REGARDING FORWARD-LOOKING INFORMATION

This prospectus and any related prospectus supplement and the information incorporated by reference herein and therein contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). This information may involve known and unknown risks, uncertainties and other factors that are difficult to predict and may cause our actual results, performance or achievements to be materially different from future results, performance or achievements expressed or implied by any forward-looking statements. These risks, uncertainties and other factors include, but are not limited to, risk associated with the following:

- *the reliability of the results of the studies relating to human safety and possible adverse effects resulting from the administration of our product candidates,*
- *funding delays, reductions in or elimination of U.S. Government funding and/or non-renewal of expiring funding under our September 2014 contract with the National Institutes of Allergy and Infectious Diseases, or NIAID,*
- *our ability to satisfy certain technical milestones under our September 2014 contract with NIAID that would entitle us to receive additional funding over the period of the agreement,*
- *the preservation of our net operating loss carryforwards, or NOLs,*
- *delays caused by third parties challenging government contracts awarded to us,*
- *unforeseen safety and efficacy issues,*
- *completing the Mergers or accomplishing any future strategic partnerships or business combinations,*
- *our ability to continue to satisfy the listing requirements of the NYSE MKT,*

as well as risks detailed under the caption "Risk Factors" in this prospectus and any related prospectus supplement and in our other reports filed with the U.S. Securities and Exchange Commission, or the SEC, from time to time hereafter.

Forward-looking statements describe management's current expectations regarding our future plans, strategies and objectives and are generally identifiable by use of the words "may," "will," "should," "could," "expect," "anticipate," "estimate," "believe," "intend," "project," "potential" or "plan" or the negative of these words or other variations on these words or comparable terminology. Such statements include, but are not limited to, statements relating to:

- *potential payments under government contracts or grants,*
- *potential future government contracts or grant awards,*
- *potential regulatory approvals,*
- *potential consummation of the Mergers or other future strategic partnerships or business combinations,*
- *future product advancements, and*
- *anticipated financial or operational results.*

Forward-looking statements are based on assumptions that may be incorrect, and we cannot assure you that the projections included in the forward-looking statements will come to pass.

All forward-looking statements included herein are expressly qualified in their entirety by the cautionary statements contained or referred to above.

USE OF PROCEEDS

We will retain broad discretion over the use of net proceeds to us from the sale of our securities offered hereby. Except as may be otherwise described in a prospectus supplement, we currently anticipate using any net proceeds to us for general corporate purposes, which may include working capital, research and development expenses, general and administrative expenses, and capital expenditures. We may also use a portion of the net proceeds to acquire or invest in businesses, products and technologies that are complementary to our own, although we have no present commitments or agreements for any such transactions. The amounts and timing of our actual expenditures for each purpose may vary significantly depending upon numerous factors, including the actual amount of proceeds we receive, the status of our research and product development efforts, regulatory approvals, competition and economic or other conditions.

Pending the application of such proceeds, we may invest the proceeds in short-term, interest bearing, investment-grade marketable securities or money market obligations.

DESCRIPTION OF COMMON STOCK

Under our Amended and Restated Certificate of Incorporation, as amended, to which we refer as our “charter,” we are currently authorized to issue 100,000,000 shares of common stock, par value \$.0001 per share. As of March 22, 2017, we had 68,815,195 shares of common stock outstanding.

Holders of our common stock are entitled to one vote for each share of common stock held of record on all matters to be voted on by stockholders, except as otherwise provided by law or in any preferred stock designation. Our bylaws specify that, except as otherwise required by law or our charter, the presence in person or by proxy of holders of a majority of the shares entitled to vote at a meeting of stockholders will be necessary, and will constitute a quorum, for the transaction of business at such meeting. Our bylaws furthermore specify that all elections of directors will be determined by a plurality of the votes and that, except as otherwise provided by law or in the charter or bylaws, any other matter will be determined by the vote of a majority of the shares which are voted with regard to it. Holders of our common stock have no conversion, preemptive or other subscription rights and there are no sinking fund or redemption provisions applicable to the common stock.

There is no cumulative voting with respect to the election of directors, with the result that the holders of more than 50% of the shares voting for the election of directors can elect all of the directors then up for election. Holders of our common stock are entitled to receive dividends when, as and if declared by our board of directors out of funds legally available therefor. In the event of our liquidation, dissolution or winding up, the holders of common stock are entitled to share in all assets remaining which are available for distribution to them after payment of liabilities and after provision has been made for each class of stock, if any, having preference over the common stock.

Transfer Agent

The transfer agent and registrar for the common stock is Continental Stock Transfer & Trust Company, New York, New York.

DESCRIPTION OF PREFERRED STOCK

Under our charter, we are currently authorized to issue 1,000,000 shares of preferred stock, par value \$.0001 per share. As of the date of this prospectus, we had no shares of preferred stock outstanding.

Under our charter, our board of directors is expressly granted authority to issue shares of preferred stock, in one or more series, and to fix for each series such voting powers, full or limited, and such designations, preferences and relative, participating, optional or other special rights and such qualifications, limitations or restrictions as it may determine in the resolution or resolutions providing for the issue of such series (to which we also refer as a “preferred stock designation”) and as may be permitted by the Delaware General Corporation Law. 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 of the voting power of all of the then outstanding shares of our 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 pursuant to any preferred stock designation.

This section describes the general terms of our preferred stock to which any prospectus supplement may relate. A prospectus supplement will describe the terms relating to any preferred stock to be offered by us in greater detail, and may provide information that is different from the information described in this prospectus. If the information in the prospectus supplement with respect to the particular preferred stock being offered differs from the information in this prospectus, you should rely on the information in the prospectus supplement. A copy of our charter has been incorporated by reference from our filings with the SEC as an exhibit to the registration statement of which this prospectus is a part. A certificate of designations will specify the terms of the preferred stock being offered, and will be filed as an exhibit to the registration statement of which this prospectus is a part or incorporated by reference from a report that we file with the SEC.

The rights and terms relating to any new series of preferred stock could adversely affect the voting power or other rights of the holders of the common stock or could be utilized, under certain circumstances, as a method of discouraging, delaying or preventing a change in control of the Company.

The following description of our preferred stock, together with any description of our preferred stock in a related prospectus supplement, summarizes the material terms and provisions of the preferred stock that we may sell under this prospectus. We urge you to read the applicable prospectus supplement(s) related to the particular series of preferred stock that we sell under this prospectus and to the actual terms and provisions contained in our charter (certificate of designations) and bylaws, each as amended from time to time.

Terms

Our board of directors will fix the rights, preferences, privileges, qualifications and restrictions of the preferred stock of each series that we sell under this prospectus and applicable prospectus supplements in the certificate of designations relating to that series. We will file as an exhibit to the registration statement of which this prospectus is a part or incorporate by reference the form of any certificate of designations that describes the terms of the series of preferred stock we are offering in connection with the issuance of the related series of preferred stock. This description of the preferred stock in the certificate of designations and any applicable prospectus supplement may include:

- the number of shares of preferred stock to be issued and the offering price of the preferred stock;
- the title and stated value of the preferred stock;
- dividend rights, including dividend rates, periods, or payment dates, or methods of calculation of dividends applicable to the preferred stock;
- whether dividends will be cumulative or non-cumulative, and if cumulative the date from which distributions on the preferred stock shall accumulate;
- right to convert the preferred stock into a different type of security;
- voting rights, if any, attributable to the preferred stock;
- rights and preferences upon our liquidation or winding up of our affairs;
- terms of redemption;
- preemption rights, if any;
- the procedures for any auction and remarketing, if any, for the preferred stock;

- the provisions for a sinking fund, if any, for the preferred stock;
- any listing of the preferred stock on any securities exchange;
- the terms and conditions, if applicable, upon which the preferred stock will be convertible into our common stock, including the conversion price (or manner of calculation thereof);
- a discussion of federal income tax considerations applicable to the preferred stock, if material;
- the relative ranking and preferences of the preferred stock as to dividend or other distribution rights and rights if we liquidate, dissolve or wind up our affairs;
- any limitations on issuance of any series of preferred stock ranking senior to or on a parity with the series of preferred stock being offered as to distribution rights and rights upon the liquidation, dissolution or winding up or our affairs; and
- any other specific terms, preferences, rights, limitations or restrictions of the preferred stock.

Rank

As set forth in the applicable supplement to this prospectus, shares of our preferred stock may rank, with respect to payment of distributions and rights upon our liquidation, dissolution or winding up, and allocation of our earnings and losses:

- senior to all classes or series of our common stock, and to all of our equity securities ranking junior to the preferred stock;
- equally with all equity securities issued by us, the terms of which specifically provide that these equity securities rank on a parity, or equally, with the preferred stock; or
- junior to all equity securities issued by us, the terms of which specifically provide that these equity securities rank senior to the preferred stock.

Distributions

Subject to any preferential rights of any outstanding stock or series of stock, holders of our preferred stock may be entitled to receive distributions, when and as authorized by our board of directors, out of legally available funds, and share pro rata based on the number of shares of preferred stock, common stock and other equity securities outstanding.

Voting Rights

As indicated in the applicable supplement to this prospectus, and as otherwise required under Delaware law, holders of our preferred stock may or may not have voting rights.

Liquidation Preference

As indicated in the applicable supplement to this prospectus, upon the voluntary or involuntary liquidation, dissolution or winding up of our affairs, then, before any distribution or payment shall be made to the holders of any common stock or any other class or series of stock ranking junior to the preferred stock in our distribution of assets upon any liquidation, dissolution or winding up, the holders of each series of our preferred stock may be entitled to receive, after payment or provision for payment of our debts and other liabilities, out of our assets legally available for distribution to shareholders, liquidating distributions in the amount of the liquidation preference per share (set forth in the applicable supplement to this prospectus), plus an amount, if applicable, equal to all distributions accrued and unpaid thereon (which shall not include any accumulation in respect of unpaid distributions for prior distribution periods if the preferred stock does not have a cumulative distribution). After payment of the full amount of the liquidating distributions to which they may be entitled, the holders of preferred stock may have no right or claim to any of our remaining assets. In the event that, upon our voluntary or involuntary liquidation, dissolution or winding up, the legally available assets are insufficient to pay the amount of the liquidating distributions on all of our outstanding preferred stock and the corresponding amounts payable on all of our stock of other classes or series of equity security ranking on a parity with the preferred stock in the distribution of assets upon liquidation, dissolution or winding up, then the holders of our preferred stock and all other such classes or series of equity securities may share ratably in the distribution of assets in proportion to the full liquidating distributions to which they would otherwise be respectively entitled.

If the liquidating distributions are made in full to all holders of preferred stock, our remaining assets may be distributed among the holders of any other classes or series of equity security ranking junior to the preferred stock upon our liquidation, dissolution, or winding up, according to their respective rights and preferences and in each case according to their respective number of shares of stock.

Conversion Rights

The terms and conditions, if any, upon which shares of any series of preferred stock are convertible into, such as common stock, debt securities, warrants or units consisting of one or more of such securities will be set forth in the applicable supplement to this prospectus. These terms will include the amount and type of security into which the shares of preferred stock are convertible, the conversion price (or manner of calculation thereof), the conversion period, provisions as to whether conversion will be at the option of the holders of the preferred stock or us, the events, if any, requiring an adjustment of the conversion price and provisions, if any, affecting conversion in the event of the redemption of that preferred stock.

Redemption

If so provided in the applicable supplement to this prospectus, our preferred stock will be subject to mandatory redemption or redemption at our option, in whole or in part, in each case upon the terms, at the times and at the redemption prices set forth in such supplement to this prospectus.

DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplements, summarizes the material terms and provisions of the warrants that we may offer under this prospectus. While the terms we have summarized below will apply generally to any warrants that we may offer under this prospectus, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. The terms of any warrants offered under a prospectus supplement may differ from the terms described below.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the form of warrant agreement, which may include a form of warrant certificate, that describes the terms of the particular series of warrants we are offering. The following summary of material provisions of the warrants and the warrant agreements are subject to all the provisions of the warrant agreement and warrant certificate applicable to a particular series of warrants. We urge you to read the applicable prospectus supplements related to the particular series of warrants that we sell under this prospectus, as well as the complete warrant agreements and/or warrant certificates that contain the terms of the warrants.

General

We will describe in the applicable prospectus supplement the terms relating to warrants being offered, which may include:

- the offering price and aggregate number of warrants offered;

- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant, the price at which these shares may be purchased upon such exercise and whether such exercise may be on a cashless basis;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreements and warrants may be modified;
- federal income tax consequences of holding or exercising the warrants, if material;
- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will likely not have any of the rights of holders of the securities purchasable upon such exercise, including, in the case of warrants to purchase common stock or preferred stock, the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up of our affairs or to exercise voting rights, if any.

Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering the warrant certificate representing the warrants to be exercised together with specified information, and paying the required amount to the warrant agent in immediately available funds, as provided in the applicable prospectus supplement. We intend to set forth in any warrant agreement and in the applicable prospectus supplement the information that the holder of the warrant will be required to deliver to the warrant agent.

Upon receipt of the required payment and any warrant certificate or other form required for exercise properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will issue and deliver the securities purchasable upon such exercise. If fewer than all of the warrants represented by the warrant or warrant certificate are exercised, then we will issue a new warrant or warrant certificate for the remaining amount of warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for warrants.

PLAN OF DISTRIBUTION

These securities may be offered and sold directly by us, through dealers or agents designated from time to time, or to or through underwriters or may be offered and sold directly by us through a specific bidding or auction process, a rights offering or through a combination of these methods. The prospectus supplement with respect to the securities being offered will set forth the terms of the offering, including the names of the underwriters, dealers or agents, if any, the purchase price of the securities, our net proceeds, any underwriting discounts and other items constituting underwriters' compensation, public offering price and any discounts or concessions allowed or reallocated or paid to dealers and any securities exchanges on which such securities may be listed. These securities may also be offered by us to our shareholders in lieu of dividends.

The distribution of securities may be effected, from time to time, in one or more transactions, including:

- block transactions (which may involve crosses) and transactions on the NYSE MKT or any other organized market where the securities may be traded;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its own account pursuant to a prospectus supplement;
- ordinary brokerage transactions and transactions in which a broker-dealer solicits purchasers;
- directly to one or more purchasers (through a specific bidding or auction process or otherwise);
- sales "at the market" to or through a market maker or into an existing trading market, on an exchange or otherwise; and
- sales in other ways not involving market makers or established trading markets, including direct sales to purchasers.

The securities may be sold at a fixed price or prices, which may be changed, or at market prices prevailing at the time of sale, at prices relating to the prevailing market prices or at negotiated prices. The consideration may be cash or another form negotiated by the parties. Agents, underwriters or broker-dealers may be paid compensation for offering and selling the securities. That compensation may be in the form of discounts, concessions or commissions to be received from us or from the purchasers of the securities. Dealers and agents participating in the distribution of the securities may be deemed to be underwriters, and compensation received by them on resale of the securities may be deemed to be underwriting discounts and commissions under the Securities Act. If such dealers or agents were deemed to be underwriters, they may be subject to statutory liabilities under the Securities Act.

We may also make direct sales through subscription rights distributed to our existing shareholders on a pro rata basis, which may or may not be transferable. In any distribution of subscription rights to our shareholders, if all of the underlying securities are not subscribed for, we may then sell the unsubscribed securities directly to third parties or may engage the services of one or more underwriters, dealers or agents, including standby underwriters, to sell the unsubscribed securities to third parties.

If underwriters are used in an offering, we may execute an underwriting agreement with such underwriters and will specify the name of each underwriter and the terms of the transaction (including any underwriting discounts and other terms constituting compensation of the underwriters and any dealers) in a prospectus supplement. If an underwriting syndicate is used, the managing underwriter(s) will be specified on the cover of the prospectus supplement. If underwriters are used in the sale, the offered securities will be acquired by the underwriters for their own accounts and may be resold from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. Any public offering price and any discounts or concessions allowed or reallocated or paid to dealers may be changed from time to time. Unless otherwise set forth in the prospectus supplement, the obligations of the underwriters to purchase the offered securities will be subject to conditions precedent and the underwriters will be obligated to purchase all of the offered securities if any are purchased.

If dealers are used in an offering, we will sell the securities to the dealers as principals. The dealers may resell the securities to the public at varying prices, which they determine at the time of resale. The names of the dealers and the terms of the transaction will be specified in a prospectus supplement.

The securities may be sold directly by us or through agents we designate. If agents are used in an offering, the names of the agents and the terms of the agency will be specified in a prospectus supplement. Unless otherwise indicated in a prospectus supplement, the agents will act on a for-fee basis for the period of their appointment.

Dealers and agents named in a prospectus supplement may be deemed to be underwriters (within the meaning of the Securities Act) of the securities described therein. In addition, we may sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any resales thereof.

In compliance with the guidelines of the Financial Industry Regulatory Authority ("FINRA"), the aggregate value of all compensation to be received by participating FINRA members in any offering will not exceed 8% of the offering proceeds.

Underwriters, dealers and agents, may be entitled to indemnification by us against specific civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which the underwriters or agents may be required to make in respect thereof, under underwriting or other agreements. The terms of any indemnification provisions will be set forth in a prospectus supplement. Certain underwriters, dealers or agents and their associates may engage in transactions with and perform services for us in the ordinary course of business.

If so indicated in a prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by institutional investors to purchase securities pursuant to contracts providing for payment and delivery on a future date. We may enter contracts with commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutional investors. The obligations of any institutional investor will be subject to the condition that its purchase of the offered securities will not be illegal at the time of delivery. The underwriters and other agents will not be responsible for the validity or performance of contracts.

Each prospectus supplement will indicate if the securities offered thereby will be listed on any securities exchange; however, we anticipate that any common shares sold pursuant to a prospectus supplement will be eligible for trading on the NYSE MKT, subject to official notice of issuance. Any underwriters to whom securities are sold by us for Public offering and sale may make a market in the securities, but such underwriters will not be obligated to do so and may discontinue any market making at any time without notice.

LEGAL MATTERS

Certain legal matters relating to the issuance and sale of the securities hereby will be passed upon by Dentons US LLP, New York, New York. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

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 Ernest & 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.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational reporting requirements of the Exchange Act and file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any materials we file with the SEC at the SEC's Public Reference Room located at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC -0330 for further information on the Public Reference Room. You may also access filed documents at the SEC's website at www.sec.gov.

INCORPORATION BY REFERENCE

We are incorporating by reference important business and financial information about us that we file with the SEC. Any information that we incorporate by reference is considered part of this prospectus. Information that we file with the SEC after the initial filing of the registration statement of which this prospectus forms a part and prior to the termination of the offering pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, shall be deemed to be incorporated by reference in the registration statement and to be part thereof from the date of filing of such information and automatically adds to, updates or supersedes the information listed below.

We incorporate by reference the following documents we have filed, or may file, with the SEC:

- Our Annual Report on Form 10-K for the year ended December 31, 2016 (File No. 001-32587);
- Our Current Reports on Form 8-K filed with the SEC on January 19, 2017, February 1, 2017, March 14, 2017, and March 29, 2017 (excluding the information contained in Item 2.02 and any information pertaining to such item in Exhibit 99.1 therein, which are not incorporated by reference herein); and
- The description of our common stock contained in our 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, including the description of the Company's securities set forth in the Definitive Proxy Statement filed with the SEC on July 16, 2007, on page 159 under the caption "Description of Securities."

To the extent that any information contained in any Current Report on Form 8-K, or any exhibit thereto, is furnished to, rather than filed with, the SEC, such information or exhibit is specifically not incorporated by reference in this prospectus.

We make available free of charge through our website at www.pharmathene.com our press releases and all of the documents that we are required to file electronically with the SEC, including all amendments thereto, as soon as reasonably practical after they are electronically filed with, or furnished to, the SEC. Our website also contains our Code of Ethics. The information on our website is not part of nor incorporated by reference into this prospectus.

You may also read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC -0330. The SEC also maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers, like PharmAthene, that file electronically with the SEC at <http://www.sec.gov>.

In addition, we will provide, without charge to each person, including any beneficial owner, to whom this prospectus is delivered, upon written or oral request of such person, a copy of any or all of the documents incorporated by reference in this prospectus other than exhibits, unless such exhibits specifically are incorporated by reference into such documents or this prospectus. Requests for such documents should be addressed in writing or by telephone to: PharmAthene, Inc., One Park Place, Suite 450, Annapolis, MD 21401, (410) 269-2600.

PART II.

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following is a statement of the estimated costs and expenses, other than underwriting compensation, incurred or expected to be incurred by us in connection with the issuance and distribution of the securities being registered pursuant to this registration statement. All of the amounts shown are estimates except for the SEC registration fee. The amounts do not include the costs of preparing any prospectus supplements, NYSE MKT listing fees, FINRA filing fees, transfer agent fees or other expenses relating to the sale and distribution of particular securities registered pursuant to this registration statement, as those costs and expenses cannot be estimated at this time.

SEC Registration Fee	\$	11,590
Accounting Fees and Expenses	\$	50,000
Legal Fees and Expenses	\$	50,000
Miscellaneous Fees and Expenses	\$	5,000
Total:	\$	116,590

Item 15. Indemnification of Officers and Directors.

Our Amended and Restated Certificate of Incorporation, as amended, provides that the Company, to the full extent permitted by Section 145 of the Delaware General Corporation Law, as amended from time to time, shall indemnify all persons whom it may indemnify pursuant such law. It further provides that expenses (including attorneys' fees) incurred by an officer or director in defending any civil, criminal, administrative, or investigative action, suit or proceeding for which such officer or director may be entitled to indemnification under our Amended and Restated Certificate of Incorporation, as amended, shall be paid by the Company in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of such director or officer to repay such amount if it shall ultimately be determined that he is not entitled to be indemnified by the Company as authorized thereby.

Our Bylaws, as amended, provide the Company with the power to indemnify its officers, directors, employees and agents or any person serving at the Company's request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise to the fullest extent permitted by Delaware law.

All of our directors and officers are covered by insurance policies maintained by the Company against certain liabilities for actions taken in their capacities as such, including liabilities under the Securities Act.

On January 21, 2009, the Company's board of directors approved a form of indemnification agreement (the "Indemnification Agreement") and authorized the Company to enter into such Indemnification Agreement with each of the Company's current directors and executive officers, as well as other key employees to be identified by the chief executive officer from time to time.

Pursuant to the Indemnification Agreements, the Company generally agreed, in exchange for each person's continued service as a director, officer or other employee, as applicable, to indemnify and hold harmless each such person to the fullest extent permitted by law against certain expenses, judgments, penalties, fines and settlement payments incurred in connection with any proceeding other than a derivative suit (and against certain expenses in connection with a derivative suit) and resulting from his or her service to the Company.

The foregoing description of the Indemnification Agreements does not purport to be complete and is qualified in its entirety by reference to the actual agreement, a form of which is attached as an exhibit to the Company's Current Report on Form 8-K, filed on January 27, 2009.

Item 16. Exhibits.

See the index to exhibits, which is incorporated herein by reference.

Item 17. Undertakings.

(a) The undersigned registrant hereby undertakes:

(1) to file, during the 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, as amended (the "Securities Act" or "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 Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

(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;

provided, however, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") that are incorporated by reference in the registration statement or is contained in a form of prospectus pursuant to Rule 424(b) that is part of the registration statement;

(2) that, for the purpose of determining any liability under the Securities Act, 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; and

(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.

(5) that, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) (A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5) or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which the prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. *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 effective date, 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 effective date.

(6) 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 (§230.424 of this chapter);

(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.

(h) 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 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 Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and 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 30, 2017.

PHARMATHENE, INC.
(Registrant)

By: /s/ John M. Gill
John M. Gill
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, each of the undersigned constitutes and appoints John M. Gill, and Philip MacNeill, and each of them, as attorneys-in-fact and agents, with full power of substitution and resubstitution, for and in the name, place and stead of the undersigned, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement or any Registration Statement for this offering that is to be effective upon the filing pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and all post-effective amendments thereto, and to file the same, with all exhibits thereto and all other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as the undersigned might or could do in person, hereby ratifying and confirming all that each of said attorney-in-fact or substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities indicated, on March 30, 2017.

Signature	Title
<u>/s/ John M. Gill</u> John M. Gill	Chief Executive Officer and Director (Principal Executive Officer)
<u>/s/ Philip MacNeill</u> Philip MacNeill	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)
<u>/s/ Derace Schaffer, M.D.</u> Derace Schaffer, M.D.	Director
<u>/s/ Eric I. Richman</u> Eric I. Richman	Director
<u>/s/ Steven St. Peter, M.D.</u> Steven St. Peter, M.D.	Director
<u>/s/ Jeffrey W. Runge, M.D.</u> Jeffrey W. Runge, M.D.	Director
<u>/s/ Mitchel Sayare, Ph.D.</u> Mitchel Sayare, Ph.D.	Director

Index to Exhibits

Exhibit No.	Description
1.1**	Form of Underwriting Agreement.
2.1+	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 (incorporated by reference to Exhibit 2.1 to the Company's current report on Form 8-K, filed on January 19, 2017).
4.1	Amended and Restated Certificate of Incorporation of the Company, as amended (incorporated by reference to Exhibit 3.1 to the Company's current report on Form 8-K filed on November 4, 2009).
4.2	By-laws, as amended (incorporated by reference to Exhibit 3.1 to the Company's current report on Form 8-K filed on November 25, 2015).
4.3	Specimen Common Stock Certificate (incorporated by reference to Exhibit 4.2 to the Company's current report on Form 8-K/A, filed on September 24, 2007).
4.4**	Form of preferred stock certificate.
4.5**	Form of Certificate of Designations to state terms of preferred stock.
4.6**	Form of warrant agreement.
4.7**	Form of warrant certificate.
5.1*	Opinion of Dentons US LLP.
23.1*	Consent of Dentons US LLP (included in Exhibit 5.1).
23.2*	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
24.1*	Powers of Attorney (included on the signature page of this Registration Statement).

* Filed herewith.

** If applicable, to be subsequently filed by amendment or as an exhibit to a current report on Form 8-K or other applicable report filed with the SEC and incorporated herein by reference.

+ Exhibits and schedules to the Agreement and Plan of Merger and Reorganization have been omitted pursuant to Item 601(b)(2) of Regulation S-K. The Registrant will furnish the omitted exhibits and schedules to the SEC upon request by the SEC.

Dentons US LLP
1221 Avenue of the Americas
New York, NY 10020-1089

T +1 212 768 6700
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dentons.com

March 30, 2017

PharmAthene, Inc.
One Park Place, Suite 450
Annapolis, MD 21401

Re: Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to PharmAthene, Inc., a Delaware corporation (the “Company”), in connection with a Registration Statement on Form S-3 being filed contemporaneously herewith by the Company with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the “Securities Act”) (such registration statement, as it may be amended, the “Registration Statement”) for the issuance and sale from time to time pursuant to Rule 415(a)(1)(x), promulgated under the Securities Act, of securities (collectively, the “Securities”) with an aggregate public offering price of \$100,000,000, consisting of: (i) shares of common stock, par value \$0.0001 per share, of the Company (the “Common Stock”); (ii) shares of preferred stock, par value \$0.0001 per share, of the Company (the “Preferred Stock”); and (iii) warrants to purchase shares of Common Stock or Preferred Stock (collectively, the “Warrants”). This opinion is being delivered to you in accordance with your request and in accordance with the requirements of Item 16 of Form S-3 and Item 601(b)(5)(i) of Regulation S-K.

In connection with rendering this opinion, we have examined originals, certified copies or copies otherwise identified as being true copies of the following:

- (a) the Registration Statement;
- (b) the Amended and Restated Certificate of Incorporation of the Company, as amended (as so amended, the “Certificate of Incorporation”);
- (c) the By-Laws of the Company, as amended (as so amended, the “By-Laws”);
- (d) corporate proceedings of the Company relating to its proposed issuance of the Securities; and
- (e) such other instruments and documents as we have deemed relevant or necessary in connection with our opinions set forth herein.

In making the aforesaid examinations, we have assumed the genuineness and authenticity of all documents examined by us and all signatures therein and the conformity to originals of all copies of all documents examined by us. We have also assumed that the corporate records furnished to us by the Company include all corporate proceedings taken by it to date.

Based on and subject to the assumptions, qualifications and limitations set forth herein, we are of the opinion that:

(1) When (i) the Registration Statement has become effective under the Securities Act and (ii) an issuance of the Common Stock has been duly authorized by the Company and, upon issuance and delivery of certificates for the Common Stock against payment therefor in accordance with the terms of such corporate proceeding taken by the Company and any applicable underwriting agreement or purchase agreement, and as contemplated by the Registration Statement and/or the applicable prospectus supplement, or upon the exercise of any Warrants to purchase Common Stock in accordance with the terms thereof, or conversion or exchange of Preferred Stock that, by its terms, is convertible into or exchangeable for Common Stock, and receipt by the Company of any additional consideration payable upon such conversion, exchange or exercise, as applicable, the shares of Common Stock represented by such certificates will be validly issued, fully paid and non-assessable.

(2) When (i) the Registration Statement has become effective under the Securities Act, (ii) a series of Preferred Stock has been duly authorized and established by the Company in accordance with the terms of the Certificate of Incorporation, the By-Laws and applicable law, (iii) one or more appropriate Certificate or Certificates of Designation has or have been filed with the Secretary of State of the State of Delaware and (iv) the issuance of such series of Preferred Stock has been appropriately authorized by the Company and, upon issuance and delivery of certificates for such series of Preferred Stock against payment therefor in accordance with the terms of such corporate proceeding taken by the Company and any applicable underwriting agreement or purchase agreement, and as contemplated by the Registration Statement and/or the applicable prospectus supplement, or upon the exercise of any Warrants to purchase such series of Preferred Stock in accordance with the terms thereof, and receipt by the Company of any additional consideration payable upon such exercise, such series of Preferred Stock represented by such certificates will be validly issued, fully paid and non-assessable.

(3) When (i) the Registration Statement has become effective under the Securities Act, (ii) the Warrants and, if applicable, a warrant agreement conforming to the description thereof in the Registration Statement and/or the applicable prospectus supplement have been duly authorized by the Company and any such warrant agreement has been duly executed and delivered by the Company and the warrant agent named therein and (iii) Warrants conforming to the requirements of any related warrant agreement have been duly authenticated by the applicable warrant agent and duly executed and delivered on behalf of the Company against payment therefor in accordance with the terms of such corporate proceeding taken by the Company, any applicable underwriting agreement or purchase agreement and any applicable warrant agreement, and as contemplated by the Registration Statement and/or the applicable prospectus supplement, the Warrants will constitute valid and binding obligations of the Company, enforceable in accordance with their terms.

Our opinions are subject to the effect of Federal and state bankruptcy, insolvency, reorganization, arrangement, moratorium, fraudulent conveyance and other laws relating to or affecting the rights of secured or unsecured creditors generally (or affecting the rights of only creditors of specific types of debtors), with respect to which we express no opinion.

Our opinions are subject to the effect of general principals of equity, whether applied by a court of law or equity, including, without limitation, concepts of materiality, good faith and fair dealing and upon the availability of injunctive relief or other equitable remedies, and the application of principles of equity (regardless of whether enforcement is considered in proceedings at law or in equity).

The Company has informed us that it intends to issue Securities from time to time on a delayed or continuous basis. The opinions set forth above are limited to applicable laws as in effect on the date hereof. Prior to issuing any Securities pursuant to the Registration Statement (i) the Company will advise us in writing of the terms thereof, and (ii) the Company will afford us an opportunity to review the documents pursuant to which such Securities are to be issued or sold (including the applicable offering documents) and the Company will file such supplement or amendment to this opinion (if any) as we may reasonably consider necessary or appropriate.

We express no opinion as to the laws of any jurisdiction other than the corporate laws of the State of Delaware (including the Delaware General Corporation Law and applicable provisions of the Delaware constitution, as well as reported judicial decisions interpreting same, but excluding local laws) and the federal laws of the United States of America.

We hereby consent to the use of our opinion as herein set forth as an exhibit to the Registration Statement and to the use of our name under the caption "Legal Matters" in the prospectus forming a part of the Registration Statement. We do not, by giving such consent, admit that we are within the category of persons whose consent is required under Section 7 of the Act.

Very truly yours,

/s/ Dentons US LLP

Dentons US LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the reference to our firm under the caption "Experts" in the Registration Statement (Form S-3) and related Prospectus of PharmAthene Inc. for the registration of shares of its common stock and to the incorporation by reference therein of our reports dated March 14, 2017, with respect to the consolidated financial statements of PharmAthene Inc., and the effectiveness of internal control over financial reporting of PharmAthene Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2016, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Baltimore, MD
March 30, 2017
