

Filed by PharmAthene, Inc.  
Pursuant to Rule 425 under the Securities Act of 1933,  
as amended, and deemed filed pursuant to Rule 14a-12  
under the Securities Exchange Act of 1934, as amended

Subject Company: PharmAthene, Inc.  
Commission File No.: 333-215891



altimmune

CORPORATE PRESENTATION  
BIO CEO  
February 13, 2017

# FORWARD-LOOKING STATEMENT DISCLOSURE

Any statements made in this presentation relating to future financial or business performance, conditions, plans, prospects, trends, or strategies and other financial and business matters, including without limitation, the potential closing date of the proposed transaction, the amount of PharmAthene's net cash at closing, the prospects for commercializing or selling any products or drug candidates, are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. In addition, when or if used in this press release, the words "may," "could," "should," "anticipate," "believe," "estimate," "expect," "intend," "plan," "predict" and similar expressions and their variants, as they relate to PharmAthene, Altimune or the management of either company, before or after the anticipated merger, may identify forward-looking statements. PharmAthene and Altimune caution that these forward-looking statements are subject to numerous assumptions, risks, and uncertainties, which change over time. Important factors that may cause actual results to differ materially from the results discussed in the forward-looking statements or historical experience include risks and uncertainties, including the failure by PharmAthene or Altimune to secure and maintain relationships with collaborators; risks relating to clinical trials; risks relating to the commercialization, if any, of PharmAthene's or Altimune's proposed product candidates (such as marketing, regulatory, product liability, supply, competition, and other risks); dependence on the efforts of third parties; dependence on intellectual property; and risks that PharmAthene or Altimune may lack the financial resources and access to capital to fund proposed operations. Further information on the factors and risks that could affect PharmAthene's business, financial conditions and results of operations are contained in PharmAthene's filings with the U.S. Securities and Exchange Commission, which are available at [www.sec.gov](http://www.sec.gov).

Other risks and uncertainties are more fully described in PharmAthene's Annual Report on Form 10-K for the year ended December 31, 2015 filed with the SEC, and in other filings that PharmAthene makes and will make with the SEC in connection with the proposed transactions, including the Joint Proxy Statement/Prospectus/Consent Solicitation described below under "Important Additional Information about the Merger." Existing and prospective investors are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. The statements made herein speak only as of the date stated herein, and subsequent events and developments may cause our expectations and beliefs to change. While we may elect to update these forward-looking statements publicly at some point in the future, we specifically disclaim any obligation to do so, whether as a result of new information, future events or otherwise, except as required by law. These forward-looking statements should not be relied upon as representing our views as of any date after the date stated herein.

# IMPORTANT ADDITIONAL INFORMATION ABOUT THE MERGER

This communication is being made in respect of the proposed merger involving PharmAthene, Inc. and Altimmune, Inc. PharmAthene has filed with the Securities and Exchange Commission, or SEC, a current report on Form 8-K, which included the merger agreement and related documents. In addition, PharmAthene has filed a registration statement on Form S-4 with the SEC, which contains a joint proxy statement/prospectus/consent solicitation and other relevant materials, and plans to file with the SEC other documents regarding the proposed transaction. The final joint proxy statement/prospectus/consent solicitation will be sent to the stockholders of PharmAthene and Altimmune. The joint proxy statement/prospectus contains information about PharmAthene, Altimmune, the proposed merger and related matters. STOCKHOLDERS ARE URGED TO READ THE JOINT PROXY STATEMENT/PROSPECTUS/CONSENT SOLICITATION (INCLUDING ANY AMENDMENTS OR SUPPLEMENTS) AND OTHER DOCUMENTS FILED WITH THE SEC CAREFULLY IN THEIR ENTIRETY, AS THEY CONTAIN IMPORTANT INFORMATION THAT STOCKHOLDERS SHOULD CONSIDER BEFORE MAKING A DECISION ABOUT THE MERGER AND RELATED MATTERS. In addition to receiving the joint proxy statement/prospectus/consent solicitation and proxy card by mail, stockholders will also be able to obtain the joint proxy statement/prospectus/consent solicitation, as well as other filings containing information about PharmAthene, without charge, from the SEC's website (<http://www.sec.gov>) or, without charge, by directing a written request to: PharmAthene, Inc., One Park Place, Suite 450, Annapolis, Maryland 21401, Attention: Investor Relations.

This communication shall not constitute an offer to sell or the solicitation of an offer to sell or the solicitation of an offer to buy any securities, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offering of securities in connection with the proposed merger shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.

## Participants in Solicitation

PharmAthene and its executive officers and directors may be deemed to be participants in the solicitation of proxies from PharmAthene's stockholders with respect to the matters relating to the proposed merger. Altimmune and its officers and directors may also be deemed a participant in such solicitation. Information regarding PharmAthene's executive officers and directors is available in PharmAthene's proxy statement on Schedule 14A, filed with the SEC on April 29, 2016. Information regarding any interest that PharmAthene, Altimmune or any of the executive officers or directors of PharmAthene or Altimmune may have in the transaction with Altimmune will be set forth in the joint proxy statement/prospectus/consent solicitation that PharmAthene intends to file with the SEC in connection with its stockholder vote on matters relating to the proposed merger. Stockholders will be able to obtain this information by reading the joint proxy statement/prospectus/consent solicitation when it becomes available.

# PHARMATHENE/ALTIMMUNE

As announced January 19, 2017



PharmAthene and altimmune

PharmAthene, Inc. (NYSE MKT: PIP)



are merging to create an immunotherapeutics  
company targeting infectious diseases

## COMBINED COMPANY—INVESTMENT OPPORTUNITY

By combining forces, we have created a diversified immunotherapeutics company with:

- A portfolio of promising clinical and preclinical product candidates targeting attractive commercial markets
- Innovative platform technologies for continued growth
- A strong competitive position in the anthrax vaccines market – \$300 million annual sales
- The opportunity to leverage existing government contracting expertise to provide current and near-term revenue

## KEY BENEFITS OF THE TRANSACTION AND MERGER AGREEMENT

<b>Special Cash Dividend:</b>	PharmAthene's special one-time cash dividend of \$2.91/share of CS paid on February 3, 2017
<b>Cash position:</b>	Approx. \$20M cash and cash commitments
<b>Financing Agreement:</b>	Commitments include not less than \$3.5M in Altimmune CS prior to closing, and not less than \$5.0M in combined company CS
<b>Synergies:</b>	Expected realized efficiencies primarily in G&A and use of tax loss carrybacks
<b>Reverse Stock Split:</b>	Prior to the effective date at a ratio mutually agreed to by Altimmune and PharmAthene

## KEY TERMS OF THE TRANSACTION

<b>Proposed Transaction:</b>	Tax-free, all stock transaction
<b>Pro Forma Ownership:</b>	Altimune equity holders 58.2% FD
<b>Next Steps:</b>	Proxy Statement / Prospectus / Consent Solicitation Stockholder meeting and vote
<b>Name:</b>	Altimune, Inc.
<b>Corporate Headquarters:</b>	Gaithersburg, MD
<b>Public Market:</b>	NYSE MKT; ticker symbol ALT



# PRODUCT PIPELINE

Novel product candidates utilizing a new approach to engage the immune system, offering fundamental advantages over competing therapies

PRODUCT	PRECLINICAL	PHASE 1	PHASE 2	NEAR-TERM MILESTONES
NasoVAX	Seasonal Influenza			Phase 2 starts mid-17 Initial data expected 4Q17
	Pandemic Influenza			Development in concert with seasonal indication
HepTcell	Chronic Hepatitis B			Ongoing Phase 1 Initial data expected 4Q17
SparVax-L	Anthrax Vaccine			Phase 2 bridging study starts 2H17 Data expected 1H18
NasoShield	Anthrax			Phase 1 starts 2H17 Data expected 1H18
Oncosyn	Cancer			Preclinical program

Platform Technology  
■ Densigen  
■ RespirVec



Two distinct, complementary vaccine platform technologies activate the immune system in different ways than traditional vaccines

## RespirVec

- Replication-deficient adenovirus delivered intranasally to upper respiratory tract
- Quick and broad activation of the immune system including antibody, cellular, mucosal and innate arms
- Rapid production cycle
- Product Candidates
  - NasoVAX
  - NasoShield

## Densigen

- Activation of diseased cell killing by T cells
- Innovative peptide modification improves immunogenicity (fluorocarbon tail)
- Ability to target multiple pathogen antigens simultaneously
- Strong, directed cellular responses without HLA restriction
- Product Candidates
  - HepTcell
  - Oncosyn

## Market

- Global influenza market to reach \$10.2 billion by 2022
- \$2.0 billion annual U.S. flu vaccine market
- FluMist \$294M in 2015

## Key Differentiators

- Broad cross-protection against changing virus strains
- Rapid protection (days rather than weeks)
- Mucosal immunity at site of infection
- Use in special populations including the young and old
- Faster, cheaper manufacturing cycle

## Upcoming Milestones

- Phase 2 enrollment expected to start mid-2017, initial data expected 4Q17

# NasoVAX: PHASE 2 CLINICAL DEVELOPMENT

Monovalent H1  
Proof of Concept  
Study

**Part A– safety & immunogenicity of single intranasal dose (3 dose levels)**

- Evaluation of antibody response to both matched and divergent strains
- Cellular, innate and mucosal immunity

**Part B starts 1H 2018 – influenza challenge study**

- Half challenged at day 4, remainder at standard 28 day interval
- Endpoints = signs/symptoms of influenza; viral shedding

Initial data  
4Q 2017

Quadrivalent  
Dose Ranging  
Study

- 3 cohorts of healthy adults including healthy elderly
- Will include active comparator with licensed seasonal vaccine
- Antibody response and other measures of immunogenicity assessed one month post-vaccination and at later timepoints to assess durability

FPI 2H 2018

Quadrivalent  
Dose  
Confirmation

- Approximately 500 subjects to collect additional safety and immunogenicity data on chosen dose in preparation for EOP2
- Timing to overlap influenza season so that initial look at protective efficacy may be feasible
- May run parallel studies in high risk special populations

FPI EOY 2018

## Phase 1 Chronic Hepatitis B immunotherapeutic using the Densigen technology

- Ongoing Phase 1, initial data expected 4Q17
- Coverage against all known HBV strains expected
- T cell activating approach offers potential for disease cure
- 240 million people chronically infected worldwide with >1 million HBV-related deaths/year<sup>6</sup>
- ~\$3 billion global chronic hepatitis B market<sup>7</sup>

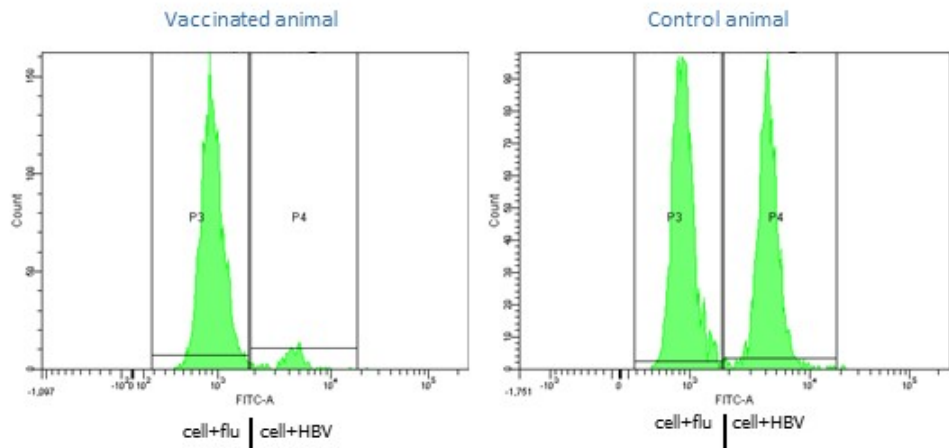
<sup>6</sup> Hepatitis B Foundation

<sup>7</sup> Hepatitis B Therapeutics in Major Developed Markets to 2021, GBI Research, Sep. 2015

# HepTcell: PRECLINICAL DATA

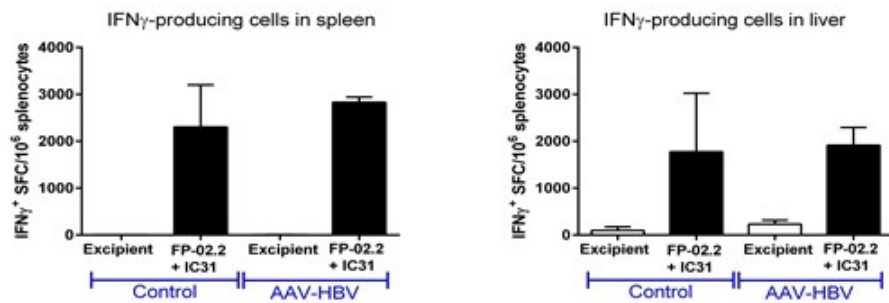
## Elicits killing of autologous cells 'infected' with HBV

- Mouse cells with either HBV proteins or unrelated viral proteins injected into mice vaccinated with HepTcell
- Within 1 day, 91.7% of HBV loaded cells were eliminated



## Surmounts HBV-induced immune tolerance

- Immunized mice generated robust T cell response in presence of HBV infection



## Phase 1

### **Double-blinded, placebo-controlled trial in 60 patients**

- Chronic Hepatitis B disease population controlled with tenofovir or entecavir
- Dosing at Days 1, 29, and 57
- Low vs high dose HepTcell ± IC31 adjuvant
- Controlled for placebo and IC31 effects

### **Study Objectives**

- Primary: Assess safety and tolerability
- Secondary: T cell response
- Exploratory: quantitative HBsAg levels
- Initial data available 4Q 2017, late safety and quant sAg in 1H 2018

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## Phase 2

### **2018**

- Confirm dose and explore schedule based on P1 results
- Global study under IND to start mid 2018
- Anticipate 120 - 200 patients



# FUTURE GENERATION ANTHRAX VACCINES

- BioThrax (Anthrax Vaccine Adsorbed) is only anthrax vaccine with FDA approval
  - \$294 million in sales in 2015 <sup>8</sup>
- Important limitations include
  - Protection requires 6 months and 3 injections <sup>9</sup>
  - Injection site local adverse reactions in 60-80% of subjects <sup>9</sup>
- Two government funded complimentary next generation anthrax vaccines
  - SparVax-L – \$25M NIAID contract
  - NasoShield – \$120M BARDA contract

<sup>8</sup> Emergent BioSolutions Inc. website; <sup>9</sup> BioThrax MSDS

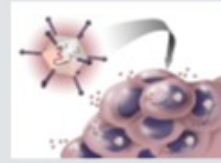
# FUTURE GENERATION ANTHRAX VACCINES

## SparVax-L Recombinant Protective Antigen (rPA) Anthrax Vaccine



- Next generation lyophilized anthrax vaccine (NIAID funded)
- Highly purified recombinant protective antigen
- Phase 2 bridging study anticipated 2H17
- Enhanced convenience and cost-effectiveness (PEP regimen)
  - 2 dose IM regimen
  - Enhanced convenience (prefilled syringe)
- Vaccine efficacy equal to or better than the licensed product
- SparVax-L suited to fulfill stockpile requirement

## NasoShield Recombinant Vector Anthrax Vaccine

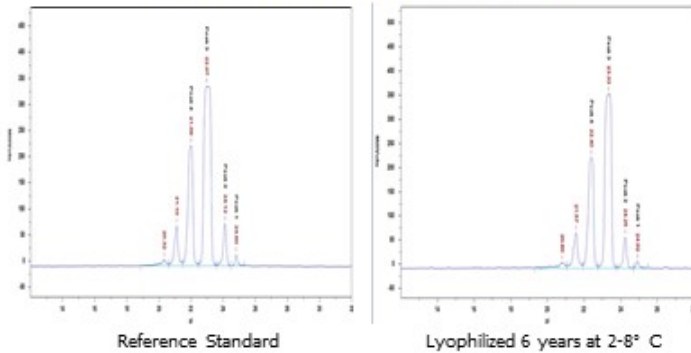


- Next generation anthrax vaccine (BARDA funded)
- First-in-class virally vectored recombinant PA vaccine
  - Safe viral vector cannot replicate
- Efficacy of single intranasal dose non-inferior to multiple injections of approved vaccine (BioThrax)
- Protective immunity threshold reached in half the time and more durable than rPA-based vaccines
  - Protection predicted in 2 versus 5 weeks
- Intranasal route for convenience and simplicity
- Highly stable at refrigerated and ambient temperatures
- NasoShield suited to fulfill stockpile requirement

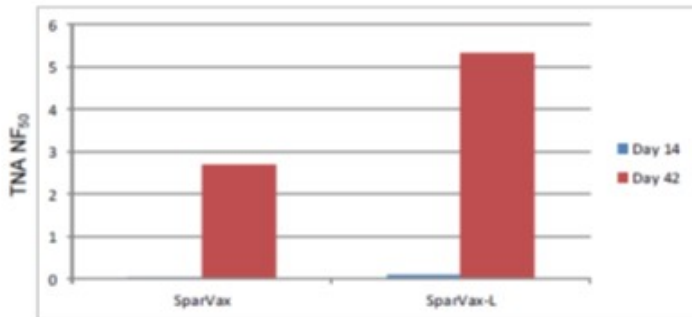
# SparVax-L AND NasoShield: PRECLINICAL DATA

## SparVax-L has Maximum Stability

Storage at refrigerator temperature



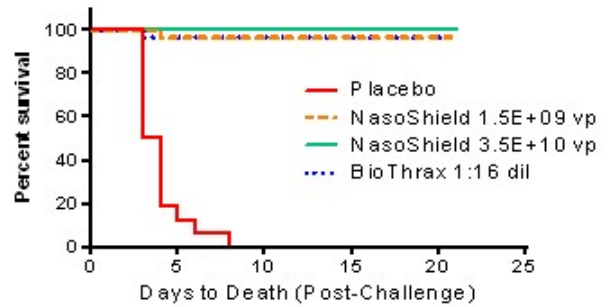
## Superior immunogenicity of SparVax-L vs SparVax



## NasoShield—Only One Dose

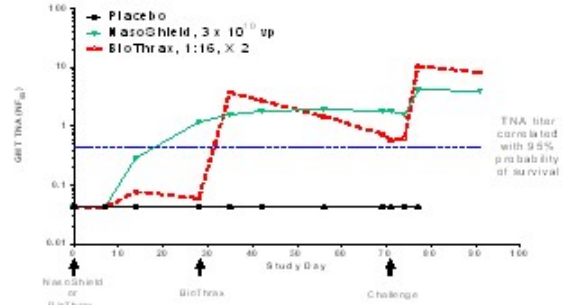
Non-inferiority vs BioThrax

Survival Following Challenge



## Faster, more durable protection

Toxin Neutralizing Antibody



# ANTHRAX VACCINE PROGRAMS

## NasoShield

Phase 1  
2H 2017  
N=145

### Design:

- 4 escalating dose cohorts with single intranasal dose
- 1 cohort with highest dose repeated at day 14
- Intranasal placebo control for each cohort
- Also randomized to open label AVA comparator

### Endpoints:

- Safety and immunogenicity
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## SparVax-L

Phase 2  
4Q 2017  
N=36

### Design:

- Randomized double-blind comparison
- SparVax-L (2 dose), AVA (3 dose) and placebo

### Primary Endpoint:

- Immunogenicity at day 28

## COMBINED COMPANY MILESTONES

We expect \$20 million in cash and cash commitments at merger, plus BARDA and NIAID contract revenue, to be sufficient to fund milestones through 1Q18.

Mid-2017	NasoVAX Phase 2 trial initiation
2H 2017	NasoShield Phase 1 trial initiation SparVax-L Phase 2 bridging study
4Q 2017	NasoVAX initial Phase 2 data HepTcell initial Phase 1 data
1H 2018	NasoShield initial Phase 1 data SparVax-L Phase 2 data

## STRONG EXECUTIVE MANAGEMENT TEAM

### Bill Enright

President and Chief Executive Officer

Altimune, Inc.  
GenVec, Inc.

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### Elizabeth A. Czerepak

Chief Financial Officer and Executive Vice President  
of Corporate Development

Altimune, Inc.  
Bear Stearns Health Innoventures

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### Scot Roberts, Ph.D.

Chief Scientific Officer

Altimune, Inc.  
ImQuest BioSciences, Inc.

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### Sybil Tasker, M.D., MPH, FACP, FIDSA

Senior Vice President of Clinical Research  
and Development

Altimune, Inc.  
Genocea Biosciences



## COMBINED BOARD OF DIRECTORS

### Extensive Experience

- Public company Board members in the life sciences industry
- Valuable guidance and relationships for ongoing efforts

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### Composition:

#### Director

#### Previous Position

#### Altimmune

David Drutz, M.D. (Chairman)  
Bill Enright  
Philip Hodges  
Klaus Schafer, M.D.

– Chairman  
– CEO and Director  
– Director  
– Director

#### PharmAthene

Mitchel Sayare, Ph.D.  
John M. Gill  
Derace Schafer, M.D.

– Chairman  
– CEO and Director  
– Director

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