Anthera Pharmaceuticals Inc
Form POS AM
March 08, 2011

Table of Contents

As filed with the Securities and Exchange Commission on March 7, 2011
Registration No. 333-170433

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

Post-Effective Amendment No. 1
to
FORM S-1
ON FORM S-3
REGISTRATION STATEMENT UNDER
THE SECURITIES ACT OF 1933

Anthera Pharmaceuticals, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**20-1852016**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

Anthera Pharmaceuticals, Inc.
25801 Industrial Boulevard, Suite B
Hayward, California 94545
(510) 856-5600
(Address, including zip code, and telephone number, including area code, of registrant s principal executive offices)

Paul F. Truex
President and Chief Executive Officer
25801 Industrial Boulevard, Suite B
Hayward, California 94545
(510) 856-5600
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:
Bradley A. Bugdanowitz, Esq.
Goodwin Procter LLP
Three Embarcadero Center, 24th Floor
San Francisco, California 94111-4003
(415) 733-6000

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

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

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. þ

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. o

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. o

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. o

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. o

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

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

Table of Contents

EXPLANATORY NOTE

On November 5, 2010, Anthera Pharmaceuticals, Inc. (the **Company**) filed a registration statement with the Securities and Exchange Commission (the **SEC**) on Form S-1 (Registration No. 333-170433) (the **Registration Statement**) which was amended by Pre-Effective Amendment No. 1 to Form S-1 filed with the SEC on November 16, 2010 (as amended, the **Form S-1**). The Registration Statement was declared effective by the SEC on November 18, 2010 to register for resale by the selling security holders identified in the prospectus an aggregate 6,741,733 shares of our Common Stock, $0.001 par value per share (the **Common Stock**). This Post-Effective Amendment No. 1 to Form S-1 on Form S-3 is being filed by the registrant to convert the Form S-1 into a registration statement on Form S-3, and contains an updated prospectus relating to the offering and sale of the shares that were registered for resale on the Form S-1.

All filing fees payable in connection with the registration of the shares of the common stock covered by the Registration Statement were paid by the registrant at the time of the initial filing of the Registration Statement.

Table of Contents

The information in this prospectus is not complete and may be changed. The selling stockholders 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 offers to buy these securities in any state where the offer or sale is not permitted.

Subject to completion, dated March 7, 2011

PROSPECTUS

6,741,733 Shares of Common Stock

This prospectus covers the sale of an aggregate of 6,741,733 shares of our common stock, $0.001 par value per share, by the selling stockholders identified in this prospectus, including their transferees, pledgees, donees or successors. The common stock covered by this prospectus consists of 6,547,797 shares of common stock and 193,936 shares of common stock issuable upon outstanding warrants held by existing stockholders.

The selling stockholders may sell their shares of common stock from time to time at market prices prevailing at the time of sale, at prices related to the prevailing market price, or at negotiated prices. We will not receive any proceeds from the sale of common stock by the selling stockholders, other than as a result of the exercise of warrants held by the selling stockholders for cash.

No underwriter or other person has been engaged to facilitate the sale of shares of our common stock in this offering. We are paying the cost of registering the shares of common stock covered by this prospectus as well as various related expenses. The selling stockholders are responsible for all selling commissions, transfer taxes and other costs related to the offer and sale of their shares of common stock.

Our common stock is traded on the NASDAQ Global Market under the symbol ANTH . On March 7, 2011, the closing sale price of our common stock on the NASDAQ Global Market was $5.68 per share.

Investing in our securities involves certain risks. See Risk Factors beginning on page 5 of this prospectus and in the applicable prospectus supplement for certain risks you should consider. You should read the entire prospectus carefully before you make your investment decision.

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 _____, 2011.

TABLE OF CONTENTS

You should rely only on the information contained in this prospectus, any applicable prospectus supplement and the information incorporated by reference in this prospectus. We have not authorized anyone to provide you with additional or different information. This document may only be used where it is legal to sell these securities. The information in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale of shares of our common stock.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference into it contain forward-looking statements. Forward-looking statements relate to future events or our future financial performance. We generally identify forward-looking statements by terminology such as may, will, would, should, expects, plans, anticipates, intends, target, projects, contemplates, believes, estimates, predicts, assume, intend, potential, c similar words or the negative of these terms. These statements are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. The outcome of the events described in these forward-looking statements is subject to risks, uncertainties and other factors described in Risk Factors and in our periodic filings with the SEC, incorporated by reference or included in this prospectus or any prospectus supplement. Accordingly, you should not place undue reliance upon these forward-looking statements. We cannot assure you that the events and circumstances reflected in the forward-looking statements will be achieved or occur, the timing of events and circumstances and actual results could differ materially from those projected in the forward looking statements. Forward-looking statements include, but are not limited to, statements about:

- our expectations related to the use of proceeds, if any, from this offering;
- the progress of, timing of and amount of expenses associated with our research, development and commercialization activities;
- the timing, conduct and success of our clinical studies for our product candidates;
- our ability to obtain U.S. and foreign regulatory approval for our product candidates and the ability of our product candidates to meet existing or future regulatory standards;
- our expectations regarding federal, state and foreign regulatory requirements;
- the therapeutic benefits and effectiveness of our product candidates;

the accuracy of our estimates of the size and characteristics of the markets that may be addressed by our product candidates;

our ability to manufacture sufficient amounts of our product candidates for clinical studies and products for commercialization activities;

our intention to seek to establish strategic collaborations or partnerships for the development or sale of our product candidates;

our expectations as to future financial performance, expense levels and liquidity sources;

the timing of commercializing our product candidates;

our ability to compete with other companies that are or may be developing or selling products that are competitive with our product candidates;

anticipated trends and challenges in our potential markets;

Table of Contents

our ability to attract and retain key personnel; and

other factors discussed elsewhere in this prospectus or any prospectus supplement.

The forward-looking statements relate only to events as of the date on which the statements are made. We have included important factors in the cautionary statements included in this prospectus, particularly in the section entitled Risk Factors that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make. Except as required by law, we do not assume any intent to update any forward-looking statements after the date on which the statement is made, whether as a result of new information, future events or circumstances or otherwise.

Table of Contents

PROSPECTUS SUMMARY

This summary highlights certain information contained or incorporated by reference in this prospectus. Because this is only a summary, it does not contain all of the information you should consider before investing in our common stock. You should read this entire prospectus carefully, especially the information set forth under the headings Risk Factors and our financial statements and the documents incorporated herein by reference, before making an investment decision.

Our Company

We are a biopharmaceutical company focused on developing and commercializing products to treat serious diseases associated with inflammation, including cardiovascular and autoimmune diseases. We currently have one Phase 3 clinical program, varespladib, and two Phase 2 clinical programs, A-623 and A-001. Varespladib and A-001 inhibit a novel enzyme target known as secretory phospholipase A_2, or $sPLA_2$. Elevated levels of $sPLA_2$ have been implicated in a variety of acute inflammatory conditions, including acute coronary syndrome and acute chest syndrome, as well as chronic diseases such as stable coronary artery disease, or CAD. Our Phase 2 product candidate, A-623, targets elevated levels of B-lymphocyte stimulator, or BLyS, also known as B-Cell Activating Factor, or BAFF, which has been associated with a variety of B-cell mediated autoimmune diseases, including systemic lupus erythematosus, or lupus. We have worldwide rights to our product candidates, with the exception of Japan, where Shionogi & Co., Ltd. retains commercial rights to our $sPLA_2$ product candidates.

Product Development Programs

We have focused our product development programs on anti-inflammatory therapeutics for cardiovascular diseases, lupus and other serious diseases for which we believe current treatments are either inadequate or non-existent. Our current product development programs are listed in the figure below.

The Offering

This prospectus relates to the resale by the selling stockholders identified in this prospectus of up to 6,741,733 shares of common stock, of which 6,547,797 shares are issued and outstanding as of the date of this prospectus, and 193,936 shares of which are issuable upon the exercise of certain warrants. All of the shares, when sold, will be sold by the selling stockholders. The selling stockholders may sell their shares from time to time at market prices prevailing at the time of sale, at prices related to the prevailing market price, or at negotiated prices. We will not receive any proceeds from the sale of shares by the selling stockholders, other than as a result of the exercise of warrants held by the selling stockholders for cash.

Table of Contents

Company Information

We were incorporated in Delaware on September 9, 2004 as Anthera Pharmaceuticals, Inc. Our corporate headquarters are located at 25801 Industrial Boulevard, Suite B, Hayward, California 94545 and our telephone number is (510) 856-5600. Our website address is *www.anthera.com*. The information contained on our website or that can be accessed through our website is not incorporated by reference into this prospectus and is not part of this prospectus.

We use various trademarks, service marks and trade names in our business, including without limitation Anthera Pharmaceuticals and Anthera. This prospectus also contains trademarks, service marks and trade names of other businesses that are the property of their respective holders.

Unless the context otherwise requires, we use the terms Anthera Pharmaceuticals, Anthera, we, us, the Company our in this prospectus to refer to Anthera Pharmaceuticals, Inc. and its sole subsidiary.

Table of Contents

RISK FACTORS

Before you decide to invest in our common stock, you should carefully consider the risks described below, together with the other information contained in or incorporated by reference into this prospectus, or any prospectus supplement. We believe the risks described below are the risks that are material to us as of the date of this prospectus. If any of the following risks occur, our business, financial condition, results of operations and future growth prospects would likely be materially and adversely affected. In these circumstances, the market price of our common stock could decline, and you may lose all or part of your investment.

Risks Related to Our Financial Condition and Capital Requirements

We have incurred significant losses since our inception and anticipate that we will incur continued significant losses for the foreseeable future.

We are a development stage company with only six years of operating history. We have focused primarily on developing our three product candidates, varespladib, A-623 and varespladib sodium (A-001). We have financed our operations exclusively through equity offerings and private placements of convertible debt and we have incurred losses in each year since our inception in September 2004. Our net losses were approximately $8.7 million in 2006, $25.7 million in 2007, $18.1 million in 2008, $12.2 million in 2009 and $40.4 million for the year ended December 31, 2010. As of December 31, 2010, we had an accumulated deficit of approximately $105.6 million. Substantially all of our losses resulted from costs incurred in connection with our product development programs and from general and administrative costs associated with our operations.

We expect to incur additional losses over the next several years, and these losses may increase if we cannot generate revenues. Our historical losses, combined with expected future losses, have had and will continue to have an adverse effect on our stockholders equity and working capital. We expect our development expenses, as well as our clinical product manufacturing expenses, to increase in connection with our pivotal Phase 3 clinical study named VISTA-16 for varespladib, our Phase 2b clinical study named PEARL-SC for A-623 and other clinical studies related to the development of A-623. In addition, we will incur additional costs of operating as a public company and, if we obtain regulatory approval for any of our product candidates, we may incur significant sales, marketing, in-licensing and outsourced manufacturing expenses as well as continued product development expenses. As a result, we expect to continue to incur significant and increasing losses for the foreseeable future.

We have never generated any revenue and may never be profitable.

Our ability to generate revenue and achieve profitability depends on our ability, alone or with collaborators, to successfully complete the development of our product candidates, conduct preclinical tests in animals and clinical studies in human beings, obtain the necessary regulatory approvals for our product candidates and commercialize any approved products. We have not generated any revenue from our development-stage product candidates, and we do not know when, or if, we will generate any revenue. The commercial success of our development-stage product candidates will depend on a number of factors, including, but not limited to, our ability to:

- obtain favorable results for and advance the development of our lead product candidate, varespladib, for the treatment of acute coronary syndrome, including successfully launching and completing the VISTA-16 study;
- obtain favorable results for and advance the development of our product candidate A-623 for the treatment of B-cell mediated autoimmune diseases, including successfully launching and completing a Phase 2b clinical study in patients with systemic lupus erythematosus, or lupus, or other indications related to the development of A-623;
- obtain favorable results for and advance the development of our product candidate A-001 for the prevention of acute chest syndrome associated with sickle cell disease, including completing a multi-center Phase 2 clinical study;
- successfully execute our planned preclinical studies in animals and clinical studies in human beings for our other product candidates;
- obtain regulatory approval for varespladib, A-623, A-001 and our other product candidates;

if regulatory approvals are obtained, begin the commercial manufacturing of our product candidates with our third-party manufacturers;

Table of Contents

launch commercial sales and effectively market our product candidates, either independently or in strategic collaborations with third parties; and

achieve broad market acceptance of our product candidates in the medical community and with third-party payors.

All of our product candidates are subject to the risks of failure inherent in the development of therapeutics based on new technologies. Currently, we have three product candidates in clinical development: varespladib, A-623 and A-001. These product candidates could fail in clinical studies if we are unable to demonstrate that they are effective or if they cause unacceptable adverse effects in the patients we treat. Failure of our product candidates in clinical studies would have a material adverse effect on our ability to generate revenue or become profitable. If we are not successful in achieving regulatory approval for our product candidates or are significantly delayed in doing so, our business will be materially harmed.

Additionally, all of our other product candidates are in preclinical development. Our drug discovery efforts may not produce any other viable or marketable product candidates. We do not expect any of our potential product candidates to be commercially available until at least 2013.

Even if our product candidates are approved for commercial sale, the approved product candidate may not gain market acceptance or achieve commercial success. Physicians, patients, payors or the medical community in general may be unwilling to accept, utilize or recommend any of our products. We would anticipate incurring significant costs associated with commercializing any approved product. Even if we are able to generate product sales, which we cannot guarantee, we may not achieve profitability soon thereafter, if ever. If we are unable to generate product revenues, we will not become profitable and may be unable to continue operations without additional funding.

We will need substantial additional capital in the future to fund our operations. If additional capital is not available, we will have to delay, reduce or cease operations.

We will need to raise substantial additional capital to fund our operations and to develop our product candidates. Our future capital requirements could be substantial and will depend on many factors including:

the rate of progress of our Phase 3 clinical study named VISTA-16 study for varespladib and our Phase 2b clinical study named PEARL-SC for A-623;

the scope, size, rate of progress, results and costs of our preclinical studies, clinical studies and other development activities for one or more of our other product candidates;

manufacturing campaign of A-623 clinical matters, including formulation development and enhancement;

non-clinical activities that we may pursue parallel to clinical trials for each clinical compound;

the cost, timing and outcomes of regulatory proceedings;

payments received under any strategic collaborations;

the filing, prosecution and enforcement of patent claims;

the costs associated with commercializing our product candidates if they receive regulatory approval, including the cost and timing of developing sales and marketing capabilities, or entering into strategic collaboration with others relating to the commercialization of our product candidates; and

revenues received from approved products, if any, in the future.

As of the date of this prospectus, we anticipate that our existing cash, cash equivalents and short-term investments, will enable us to maintain our currently planned operations through at least the next 12 months. Changing circumstances may cause us to consume capital significantly faster than we currently anticipate. Additional financing may not be available when we need it or may not be available on terms that are favorable to us. If adequate funds are not available to us on a timely basis, or at all, we may be required to:

terminate, reduce or delay preclinical studies, clinical studies or other development activities for one or more of our product candidates; or

Table of Contents

terminate, reduce or delay our (i) establishment of sales and marketing capabilities, (ii) pursuit of strategic collaborations with others relating to the sales, marketing and commercialization of our product candidates or (iii) other activities that may be necessary to commercialize our product candidates, if approved for sale.

The timing of the milestone and royalty payments we are required to make to each of Eli Lilly and Company, Shionogi & Co., Ltd. and Amgen Inc. is uncertain and could adversely affect our cash flows and results of operations.

In July 2006, we entered into a license agreement with Eli Lilly and Company, or Eli Lilly, and Shionogi & Co., Ltd. to develop and commercialize certain secretory phospholipase A_2, or $sPLA_2$, inhibitors for the treatment of cardiovascular disease and other diseases. Pursuant to our license agreement with them, we have an obligation to pay to each of Eli Lilly and Shionogi & Co., Ltd. significant milestone and royalty payments based upon how we develop and commercialize certain $sPLA_2$ inhibitors, including varespladib and A-001, and our achievement of certain significant corporate, clinical and financial events. For varespladib, we are required to pay up to $32.0 million upon achievement of certain approval and post-approval sales milestones. For A-001, we are required to pay up to $3.0 million upon achievement of certain clinical development milestones and up to $25.0 million upon achievement of certain approval and post-approval sales milestones. For other product formulations that we are not currently developing, we would be required to pay up to $2.0 million upon achievement of certain clinical development milestones and up to $35.5 million upon achievement of certain approval and post-approval sales milestones. In addition, in December 2007, we entered into a license agreement with Amgen Inc., or Amgen, pursuant to which we obtained an exclusive worldwide license to certain technology and compounds relating to A-623. Pursuant to our license agreement with Amgen, we are required to make various milestone payments upon our achievement of certain development, regulatory and commercial objectives for any A-623 formulation. We are required to pay up to $10.0 million upon achievement of certain pre-approval clinical development milestones and up to $23.0 million upon achievement of certain post-approval milestones. We are also required to make tiered quarterly royalty payments on net sales, which increase as a percentage from the high single digits to the low double digits as net sales increase. The timing of our achievement of these events and corresponding milestone payments becoming due to Eli Lilly, Shionogi & Co., Ltd. and Amgen is subject to factors relating to the clinical and regulatory development and commercialization of certain $sPLA_2$ inhibitors or A-623, as applicable, many of which are beyond our control. We may become obligated to make a milestone payment during a period in which we do not have the cash on hand to make such payment, which could require us to delay our clinical studies, curtail our operations, scale back our commercialization and marketing efforts, seek funds to meet these obligations at terms unfavorable to us or default on our license agreements, which could result in license termination.

Our limited operating history makes it difficult to evaluate our business and prospects.

We were incorporated in September 2004. Our operations to date have been limited to organizing and staffing our company, acquiring product and technology rights, conducting product development activities for our primary product candidates, varespladib, A-623 and A-001, and performing research and development. We have not yet demonstrated an ability to obtain regulatory approval for or commercialize a product candidate. Consequently, any predictions about our future performance may not be as accurate as they could be if we had a history of successfully developing and commercializing pharmaceutical products.

Risks Associated with Development and Commercialization of Our Product Candidates.

We depend substantially on the success of our three primary product candidates, varespladib, A-623 and A-001, which are still under clinical development. We cannot assure you that these product candidates or any of our other product candidates will receive regulatory approval or be successfully commercialized.

To date, we have not obtained marketing approval for, or marketed, distributed or sold any product candidates. The success of our business depends primarily upon our ability to develop and commercialize our three primary product candidates successfully. Our lead product candidate is varespladib, which has completed its Phase 2 clinical studies and for which we have received (i) an agreement from the U.S. Food and Drug Administration, or FDA, on a Special Protocol Assessment, or SPA, for the VISTA-16 Phase 3 study protocol, and (ii) scientific advice from the European Medicines Agency on our European development strategy for varespladib. We initiated the VISTA-16 study for varespladib in June 2010.

Our next product candidate is A-623, which has completed several Phase 1 clinical studies and recently began enrollment for our Phase 2b clinical study. In July 2010, we received clearance from the FDA to begin recruitment of lupus patients into the PEARL-SC Phase 2b clinical study. In November 2010, we placed a voluntary hold on the PEARL-SC study due to problems found with vials. Patient enrollment in the study was temporarily suspended and dosing was discontinued in patients who were enrolled in the study while we conducted an analysis of the problem. We resolved the issues found with the vials in December 2010. After analysis, simulation and consultation with industry experts, we determined that shipping on dry ice was the root cause of the issue.

Table of Contents

Shipping logistics were modified and we reinitiated enrollment in PEARL-SC and dosing in January 2011. We have received no reports of patient-related side effects or problems with drug administration that could be attributed to the vial problem.

Our third product candidate, varespladib sodium (A-001), is an intravenously administered inhibitor of $sPLA_2$. We have completed a Phase 2 clinical study for the prevention of acute chest syndrome associated with sickle cell disease. A pre-specified interim review of our Phase 2 clinical study results by a Data Safety Monitoring Board, or DSMB, indicated A-001, at a certain dose, reduced $sPLA_2$ activity by more than 80% from baseline within 48 hours. Furthermore, the incidence of acute chest syndrome appeared to be related to the level of $sPLA_2$ activity.

Our product candidates are prone to the risks of failure inherent in drug development. Before obtaining regulatory approvals for the commercial sale of any product candidate for a target indication, we must demonstrate with substantial evidence gathered in preclinical and well-controlled clinical studies, and, with respect to approval in the United States, to the satisfaction of the FDA and, with respect to approval in other countries, similar regulatory authorities in those countries, that the product candidate is safe and effective for use for that target indication and that the manufacturing facilities, processes and controls are adequate. Despite our efforts, our product candidates may not:

- offer therapeutic or other improvement over existing, comparable therapeutics;
- be proven safe and effective in clinical studies;
- meet applicable regulatory standards;
- be capable of being produced in sufficient quantities at acceptable costs;
- be successfully commercialized; or
- obtain favorable reimbursement.

We are not permitted to market our varespladib and A-001 product candidates in the United States until we receive approval of a new drug application, or NDA, or with respect to our A-623 product candidate, approval of a biologics license application, or BLA, from the FDA, or in any foreign countries until we receive the requisite approval from such countries. We have not submitted an NDA or BLA or received marketing approval for any of our product candidates.

Preclinical testing and clinical studies are long, expensive and uncertain processes. We may spend several years completing our testing for any particular product candidate, and failure can occur at any stage. Negative or inconclusive results or adverse medical events during a clinical study could also cause the FDA or us to terminate a clinical study or require that we repeat it or conduct additional clinical studies. Additionally, data obtained from a clinical study are susceptible to varying interpretations and the FDA or other regulatory authorities may interpret the results of our clinical studies less favorably than we do. The FDA and equivalent foreign regulatory agencies have substantial discretion in the approval process and may decide that our data are insufficient to support a marketing application and require additional preclinical, clinical or other studies.

Any termination or suspension of, or delays in the commencement or completion of, clinical testing of our product candidates could result in increased costs to us, delay or limit our ability to generate revenue and adversely affect our commercial prospects.

Delays in the commencement or completion of clinical testing could significantly affect our product development costs. We do not know whether planned clinical studies will begin on time or be completed on schedule, if at all. The commencement and completion of clinical studies can be delayed for a number of reasons, including delays related to:

- obtaining regulatory approval to commence a clinical study or complying with conditions imposed by a regulatory authority regarding the scope or design of a clinical study;
- reaching agreement on acceptable terms with prospective clinical research organizations, or CROs, and study sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and

study sites;

manufacturing, including manufacturing sufficient quantities of a product candidate or other materials for use in clinical studies;

Table of Contents

obtaining institutional review board, or IRB, approval or the approval of other reviewing entities to conduct a clinical study at a prospective site;

recruiting and enrolling patients to participate in clinical studies for a variety of reasons, including size of patient population, nature of clinical study protocol, the availability of approved effective treatments for the relevant disease and competition from other clinical study programs for similar indications;

severe or unexpected drug-related adverse effects experienced by patients in a clinical study; and

retaining patients who have initiated a clinical study, but may withdraw due to treatment protocol, adverse effects from the therapy, lack of efficacy from the treatment, personal issues or who are lost to further follow-up.

Clinical studies may also be delayed, suspended or terminated as a result of ambiguous or negative interim results, or results that are inconsistent with earlier results. For example, the independent statistician that is conducting the data review may recommend that we stop our VISTA-16 study for varespladib if certain biomarkers of inflammation and lipid profiles fail to meet pre-specified reductions from a subset of the first 1,000 or more patients. In addition, a clinical study may be suspended or terminated by us, the FDA, the IRB or other reviewing entity overseeing the clinical study at issue, any of our clinical study sites with respect to that site, or other regulatory authorities due to a number of factors, including:

failure to conduct the clinical study in accordance with regulatory requirements or our clinical protocols;

inspection of the clinical study operations or study sites by the FDA or other regulatory authorities resulting in the imposition of a clinical hold;

unforeseen safety issues or any determination that a clinical study presents unacceptable health risks; and

lack of adequate funding to continue the clinical study, including the incurrence of unforeseen costs due to enrollment delays, requirements to conduct additional clinical studies and increased expenses associated with the services of our CROs and other third parties.

Product development costs to us and our collaborators will increase if we have delays in testing or approval of our product candidates or if we need to perform more or larger clinical studies than planned. For example, we may need to increase our sample size for our VISTA-16 study for varespladib if the overall major adverse cardiovascular event, or MACE, rate is lower than expected. We typically rely on third-party clinical investigators at medical institutions and health care facilities to conduct our clinical studies and, as a result, we may face additional delaying factors outside our control.

Additionally, changes in regulatory requirements and policies may occur and we may need to amend clinical study protocols to reflect these changes. Amendments may require us to resubmit our clinical study protocols to IRBs for reexamination, which may impact the costs, timing or successful completion of a clinical study. If we experience delays in completion of, or if we, the FDA or other regulatory authorities, the IRB or other reviewing entities, or any of our clinical study sites suspend or terminate any of our clinical studies, the commercial prospects for our product candidates may be harmed and our ability to generate product revenues will be delayed. In addition, many of the factors that cause, or lead to, termination or suspension of, or a delay in the commencement or completion of, clinical studies may also ultimately lead to the denial of regulatory approval of a product candidate. Also, if one or more clinical studies are delayed, our competitors may be able to bring products to market before we do, and the commercial viability of our product candidates could be significantly reduced.

The results of biomarker assays in earlier clinical studies in varespladib are not necessarily predictive of future results, and therefore the results of biomarker assays in the VISTA-16 study may not be similar to those observed previously.

Success in our Phase 2 clinical studies in lowering low-density lipoprotein cholesterol, or LDL-C, C-reactive protein, or CRP, $sPLA_2$ and interleukin-6, or IL-6, during treatment with varespladib does not ensure that later clinical studies, such as our VISTA-16 study, will demonstrate similar reductions in these biomarkers. Each of these biomarkers has

been associated with an increased risk for secondary MACE following an acute coronary syndrome. Our inability to demonstrate similar biomarker effects in our VISTA-16 study may reduce our ability to achieve our primary endpoint to reduce MACE and to achieve regulatory approval of varespladib. Even if we demonstrate similar biomarker effects in our VISTA-16 study, those results do not necessarily equate with reductions in MACE.

Table of Contents

Because the results of preclinical testing or earlier clinical studies are not necessarily predictive of future results, varespladib, A-623, A-001 or any other product candidate we advance into clinical studies may not have favorable results in later clinical studies or receive regulatory approval.

Success in preclinical testing and early clinical studies does not ensure that later clinical studies will generate adequate data to demonstrate the efficacy and safety of an investigational drug or biologic. A number of companies in the pharmaceutical and biotechnology industries, including those with greater resources and experience, have suffered significant setbacks in Phase 3 clinical studies, even after seeing promising results in earlier clinical studies. Despite the results reported in earlier clinical studies for our product candidates, including varespladib, A-623 and A-001, we do not know whether any Phase 3 or other clinical studies we may conduct will demonstrate adequate efficacy and safety to result in regulatory approval to market any of our product candidates. If later stage clinical studies do not produce favorable results, our ability to achieve regulatory approval for any of our product candidates may be adversely impacted. Even if we believe that our product candidates have performed satisfactorily in preclinical testing and clinical studies, we may nonetheless fail to obtain FDA approval for our product candidates.

If we breach the license agreements for our primary product candidates, we could lose the ability to continue the development and commercialization of our primary product candidates.

We are party to an agreement with Eli Lilly and Shionogi & Co., Ltd. containing exclusive, worldwide licenses, except for Japan, of the composition of matter, methods of making and methods of use for certain $sPLA_2$ inhibitors. We are also party to an agreement with Amgen containing exclusive, worldwide licenses of the composition of matter and methods of use for A-623. These agreements require us to make timely milestone and royalty payments, provide regular information, maintain the confidentiality of and indemnify Eli Lilly, Shionogi & Co., Ltd. and Amgen under the terms of the agreements.

If we fail to meet these obligations, our licensors may terminate our exclusive licenses and may be able to re-obtain licensed technology and aspects of any intellectual property controlled by us that relate to the licensed technology that originated from the licensors. Our licensors could effectively take control of the development and commercialization of varespladib, A-623 and A-001 after an uncured, material breach of our license agreements by us or if we voluntarily terminate the agreements. While we would expect to exercise all rights and remedies available to us, including seeking to cure any breach by us, and otherwise seek to preserve our rights under the patents licensed to us, we may not be able to do so in a timely manner, at an acceptable cost or at all. Any uncured, material breach under the licenses could result in our loss of exclusive rights and may lead to a complete termination of our product development and any commercialization efforts for varespladib, A-623 or A-001.

Our industry is subject to intense competition. If we are unable to compete effectively, our product candidates may be rendered non-competitive or obsolete.

The pharmaceutical industry is highly competitive and subject to rapid and significant technological change. Our potential competitors include large pharmaceutical and more established biotechnology companies, specialty pharmaceutical and generic drug companies, academic institutions, government agencies and other public and private research organizations that conduct research, seek patent protection and establish collaborative arrangements for research, development, manufacturing and commercialization. All of these competitors currently engage in, have engaged in or may engage in the future in the development, manufacturing, marketing and commercialization of pharmaceuticals and biotechnologies, some of which may compete with our present or future product candidates. It is possible that any of these competitors could develop technologies or products that would render our product candidates obsolete or non-competitive, which could adversely affect our revenue potential. Key competitive factors affecting the commercial success of our product candidates are likely to be efficacy, safety profile, reliability, convenience of dosing, price and reimbursement.

The market for inflammatory disease therapeutics is especially large and competitive. All of the $sPLA_2$ inhibitor compounds we are currently developing, if approved, will face intense competition, either as monotherapies or in combination therapies. We are aware of other companies with products in development that are being tested for anti-inflammatory benefits in patients with acute coronary syndrome, such as Via Pharmaceuticals, Inc. and its 5-lipoxygenase, or 5-LO, inhibitor, which has been evaluated in Phase 2 clinical studies; and GlaxoSmithKline plc and its product candidate, darapladib, which is a lipoprotein associated phospholipase A_2, or Lp-PLA_2, inhibitor

currently being evaluated in Phase 3 clinical studies. Although there are no $sPLA_2$ inhibitor compounds currently approved by the FDA for the treatment of acute chest syndrome associated with sickle cell disease, Droxia, or hydroxyurea, is approved for the prevention of vaso-occlusive crisis, or VOC, in sickle cell disease and thus could reduce the pool of patients with VOC at risk for acute chest syndrome. Further, we are aware of companies with other products in development that are being tested for potential treatment of lupus, including Human Genome Sciences, Inc. and GlaxoSmithKline plc, who have a BAFF antagonist monoclonal antibody product candidate, Benlysta, which recently reported favorable results from two Phase 3 clinical studies in lupus; ZymoGenetics, Inc. and Merck Serono S.A., whose dual BAFF/APRIL antagonist fusion protein, Atacicept, is in a Phase 3 clinical

Table of Contents

study for lupus; and Immunomedics, Inc. and UCB S.A., who recently reported favorable results for their CD-22 antagonist humanized antibody, epratuzumab, which completed a Phase 2b clinical study in lupus and has begun a Phase 3 study.

Many of our potential competitors have substantially greater financial, technical and human resources than we do and significantly greater experience in the discovery and development of drug candidates, obtaining FDA and other regulatory approvals of products and the commercialization of those products. Accordingly, our competitors may be more successful than we may be in obtaining FDA approval for drugs and achieving widespread market acceptance. Our competitors drugs may be more effective, have fewer adverse effects, be less expensive to develop and manufacture or be more effectively marketed and sold than any product candidate we may commercialize and may render our product candidates obsolete or non-competitive before we can recover the expenses of developing and commercializing any of our product candidates. We anticipate that we will face intense and increasing competition as new drugs enter the market and advanced technologies become available. These entities may also establish collaborative or licensing relationships with our competitors. Finally, the development of new treatment methods for the diseases we are targeting could render our drugs non-competitive or obsolete. All of these factors could adversely affect our business.

Our product candidates may cause undesirable adverse effects or have other properties that could delay or prevent their regulatory approval or limit the commercial profile of any approved label.

Undesirable adverse effects caused by our product candidates could cause us, IRBs or other reviewing entities, clinical study sites, or regulatory authorities to interrupt, delay or halt clinical studies and could result in the denial of regulatory approval by the FDA or other regulatory authorities. Phase 2 clinical studies conducted by us with our product candidates have generated differences in adverse effects and serious adverse events. The most common adverse effects seen with any of our product candidates versus placebo include diarrhea, headache, nausea and increases in alanine aminotransferase, which is an enzyme that indicates liver cell injury. The most common serious adverse events seen with any of our product candidates include death, VOC and congestive heart failure. While none of these serious adverse events were considered related to the administration of our product candidates by the clinical investigators, if serious adverse events that are considered related to our product candidates are observed in any Phase 3 clinical studies, our ability to obtain regulatory approval for our product candidates may be adversely impacted. Further, if any of our product candidates receives marketing approval and we or others later discover, after approval and use in an increasing number of patients, that our products could have adverse effect profiles that limit their usefulness or require their withdrawal (whether or not the therapies showed the adverse effect profile in Phase 1 through Phase 3 clinical studies), a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw their approval of the product;
- regulatory authorities may require the addition of labeling statements, such as warnings or contraindications;
- we may be required to change the way the product is administered, conduct additional clinical studies or change the labeling of the product;
- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the affected product candidate and could substantially increase the costs of commercializing our product candidates.

After the completion of our clinical studies, we cannot predict whether or when we will obtain regulatory approval to commercialize our product candidates and we cannot, therefore, predict the timing of any future revenue from these product candidates.

Even if we project positive clinical results and file for regulatory approval, we cannot commercialize any of our product candidates until the appropriate regulatory authorities have reviewed and approved the applications for such product candidates. We cannot assure you that the regulatory agencies will complete their review processes in a timely

manner or that we will obtain regulatory approval for any product candidate we develop. Satisfaction of regulatory requirements typically takes many years, is dependent upon the type, complexity and novelty of the product and requires the expenditure of substantial resources. In addition, we may experience delays or rejections based upon additional government regulation from future legislation or administrative action or changes in FDA policy during the period of product development, clinical studies and FDA regulatory review.

Table of Contents

Our agreement with the FDA on an SPA for our VISTA-16 study of varespladib for the potential treatment of acute coronary syndrome does not guarantee any particular outcome from regulatory review of the study or the product candidate.

The FDA s SPA process creates a written agreement between the sponsoring company and the FDA regarding clinical study design and other clinical study issues that can be used to support approval of a product candidate. The SPA is intended to provide assurance that if the agreed upon clinical study protocols are followed and the clinical study endpoints are achieved, the data may serve as the primary basis for an efficacy claim in support of an NDA. However, the SPA agreement is not a guarantee of an approval of a product or any permissible claims about the product. In particular, the SPA is not binding on the FDA if public health concerns unrecognized at the time of the SPA agreement is entered into become evident, other new scientific concerns regarding product safety or efficacy arise or if the sponsor company fails to comply with the agreed upon clinical study protocols. Although we have an agreement with the FDA on an SPA for our VISTA-16 clinical study of varespladib for the potential short-term (16-week) treatment of acute coronary syndrome, we do not know how the FDA will interpret the commitments under our agreed upon SPA, how it will interpret the data and results or whether it will approve our varespladib product candidate for the short-term (16-week) treatment of acute coronary syndrome. Regardless of our SPA agreement, we cannot guarantee any particular outcome from regulatory review of our VISTA-16 study.

Even if our product candidates receive regulatory approval, they may still face future development and regulatory difficulties.

Even if U.S. regulatory approval is obtained, the FDA may still impose significant restrictions on a product s indicated uses or marketing or impose ongoing requirements for potentially costly post-approval studies or post-market surveillance. For example, the label ultimately approved for varespladib, if any, may include restrictions on use. Further, the FDA has indicated that long-term safety data on varespladib may need to be obtained as a post-market requirement. Our product candidates will also be subject to ongoing FDA requirements governing the labeling, packaging, storage, distribution, safety surveillance, advertising, promotion, recordkeeping and reporting of safety and other post-market information. In addition, manufacturers of drug products and their facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with current good manufacturing practices, or cGMP, regulations. If we or a regulatory agency discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, a regulatory agency may impose restrictions on that product, the manufacturing facility or us, including requiring recall or withdrawal of the product from the market or suspension of manufacturing. If we, our product candidates or the manufacturing facilities for our product candidates fail to comply with applicable regulatory requirements, a regulatory agency may:

- issue warning letters or untitled letters;
- seek an injunction or impose civil or criminal penalties or monetary fines;
- suspend or withdraw regulatory approval;
- suspend any ongoing clinical studies;
- refuse to approve pending applications or supplements to applications filed by us;
- suspend or impose restrictions on operations, including costly new manufacturing requirements; or
- seize or detain products, refuse to permit the import or export of products, or require us to initiate a product recall.

The occurrence of any event or penalty described above may inhibit our ability to commercialize our products and generate revenue.

New legal and regulatory requirements could make it more difficult for us to obtain approvals for our product candidates and could limit or make more burdensome our ability to commercialize any approved products.

New federal legislation or regulatory requirements could affect the requirements for obtaining regulatory approvals of our product candidates or otherwise limit our ability to commercialize any approved products or subject our products to more rigorous post-approval requirements. For example, the FDA Amendments Act of 2007, or FDAAA, granted the FDA new authority to impose post-approval clinical study requirements, require safety-related changes to product labeling and require the adoption of risk management plans, referred to in the legislation as risk evaluation and mitigation strategies, or REMS. The REMS may include requirements for special labeling or medication guides for patients, special communication plans to health care professionals, and restrictions on distribution and use. Pursuant to the FDAAA, if the FDA makes the requisite findings, it might require that a new product be used only by physicians with specified specialized training, only in specified designated health care settings, or only in conjunction with

Table of Contents

special patient testing and monitoring. The legislation also included the following: requirements for providing the public information on ongoing clinical studies through a clinical study registry and for disclosing clinical study results to the public through such registry; renewed requirements for conducting clinical studies to generate information on the use of products in pediatric patients; and substantial new penalties, for example, for false or misleading consumer advertisements. Other proposals have been made to impose additional requirements on drug approvals, further expand post-approval requirements, and restrict sales and promotional activities. The new legislation, and the additional proposals if enacted, may make it more difficult or burdensome for us to obtain approval of our product candidates, any approvals we receive may be more restrictive or be subject to onerous post-approval requirements, our ability to successfully commercialize approved products may be hindered and our business may be harmed as a result.

If any of our product candidates for which we receive regulatory approval does not achieve broad market acceptance, the revenue that we generate from its sales, if any, will be limited.

The commercial success of our product candidates for which we obtain marketing approval from the FDA or other regulatory authorities will depend upon the acceptance of these products by the medical community, including physicians, patients and health care payors. The degree of market acceptance of any of our approved products will depend on a number of factors, including:

- demonstration of clinical safety and efficacy compared to other products;
- the relative convenience, ease of administration and acceptance by physicians and payors of varespladib in the treatment of acute coronary syndrome, A-623 in the treatment of lupus and A-001 in the prevention of acute chest syndrome associated with sickle cell disease;
- the prevalence and severity of any adverse effects;
- limitations or warnings contained in a product s FDA-approved labeling;
- availability of alternative treatments, including, in the case of varespladib, a number of competitive products being studied for anti-inflammatory benefits in patients with acute coronary syndrome or expected to be commercially launched in the near future;
- pricing and cost-effectiveness;
- the effectiveness of our or any future collaborators sales and marketing strategies;
- our ability to obtain and maintain sufficient third-party coverage or reimbursement from government health care programs, including Medicare and Medicaid; and
- the willingness of patients to pay out-of-pocket in the absence of third-party coverage.

If our product candidates are approved but do not achieve an adequate level of acceptance by physicians, health care payors and patients, we may not generate sufficient revenue from these products, and we may not become or remain profitable. In addition, our efforts to educate the medical community and third-party payors on the benefits of our product candidates may require significant resources and may never be successful.

Our future success depends on our ability to retain our chief executive officer and other key executives and to attract, retain and motivate qualified personnel.

We are highly dependent on Mr. Paul F. Truex, our President and Chief Executive Officer, Dr. Colin Hislop, our Senior Vice President and Chief Medical Officer and the other principal members of our executive team. The loss of the services of any of these persons might impede the achievement of our research, development and commercialization objectives. Recruiting and retaining qualified scientific personnel and possibly sales and marketing personnel will also be critical to our success. We may not be able to attract and retain these personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We

also experience competition for the hiring of scientific personnel from universities and research institutions. Failure to succeed in clinical studies may make it more challenging to recruit and retain qualified scientific personnel. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us.

Table of Contents

Recently enacted and future legislation or regulatory reform of the health care system in the United States and foreign jurisdictions may affect our ability to sell our products profitably.

Our ability to commercialize our future products successfully, alone or with collaborators, will depend in part on the extent to which reimbursement for the products will be available from government and health administration authorities, private health insurers and other third-party payors. The continuing efforts of the U.S. and foreign governments, insurance companies, managed care organizations and other payors of health care services to contain or reduce health care costs may adversely affect our ability to set prices for our products which we believe are fair, and our ability to generate revenues and achieve and maintain profitability.

Specifically, in both the United States and some foreign jurisdictions, there have been a number of legislative and regulatory proposals to change the health care system in ways that could affect our ability to sell our products profitably. In March 2010, President Obama signed into law the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively, the Health Care Reform Law, a sweeping law intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for healthcare and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms.

We will not know the full effects of the Health Care Reform Law until applicable federal and state agencies issue regulations or guidance under the new law. Although it is too early to determine the effect of the Health Care Reform Law, the new law appears likely to continue the pressure on pharmaceutical pricing, especially under the Medicare program, and also may increase our regulatory burdens and operating costs. We expect further federal and state proposals and health care reforms to continue to be proposed by legislators, which could limit the prices that can be charged for the products we develop and may limit our commercial opportunity.

Also in the United States, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, also called the Medicare Modernization Act, or MMA, changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for drug purchases by the elderly and introduced a new reimbursement methodology based on average sales prices for drugs. In addition, this legislation authorized Medicare Part D prescription drug plans to use formularies where they can limit the number of drugs that will be covered in any therapeutic class. As a result of this legislation and the expansion of federal coverage of drug products, we expect that there will be additional pressure to contain and reduce costs. These cost reduction initiatives and other provisions of this legislation could decrease the coverage and price that we receive for any approved products and could seriously harm our business. While the MMA applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates, and any reduction in reimbursement that results from the MMA may result in a similar reduction in payments from private payors.

The continuing efforts of government and other third-party payors to contain or reduce the costs of health care through various means may limit our commercial opportunity. It will be time-consuming and expensive for us to go through the process of seeking reimbursement from Medicare and private payors. Our products may not be considered cost-effective, and government and third-party private health insurance coverage and reimbursement may not be available to patients for any of our future products or sufficient to allow us to sell our products on a competitive and profitable basis. Our results of operations could be adversely affected by the MMA, the Health Care Reform Law, and additional prescription drug coverage legislation, by the possible effect of this legislation on amounts that private insurers will pay and by other health care reforms that may be enacted or adopted in the future. In addition, increasing emphasis on managed care in the United States will continue to put pressure on the pricing of pharmaceutical products. Cost control initiatives could decrease the price that we or any potential collaborators could receive for any of our future products and could adversely affect our profitability.

In some foreign countries, including major markets in the European Union and Japan, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take six to 12 months or longer after the receipt of regulatory marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical study that compares the cost-effectiveness of our product candidates to other available therapies. Such pharmacoeconomic studies can be costly and the results uncertain. Our business could be harmed if reimbursement of our products is

unavailable or limited in scope or amount or if pricing is set at unsatisfactory levels.

We face potential product liability exposure, and, if successful claims are brought against us, we may incur substantial liability.

The use of our product candidates in clinical studies and the sale of any products for which we obtain marketing approval expose us to the risk of product liability claims. Product liability claims might be brought against us by consumers, health care providers, pharmaceutical companies or others selling or otherwise coming into contact with our products. If we cannot successfully defend

Table of Contents

ourselves against product liability claims, we could incur substantial liabilities. In addition, regardless of merit or eventual outcome, product liability claims may result in:

- impairment of our business reputation;
- withdrawal of clinical study participants;
- costs of related litigation;
- distraction of management s attention from our primary business;
- substantial monetary awards to patients or other claimants;
- the inability to commercialize our product candidates; and
- decreased demand for our product candidates, if approved for commercial sale.

Our product liability insurance coverage for our clinical studies may not be sufficient to reimburse us for all expenses or losses we may suffer. Moreover, insurance coverage is becoming increasingly expensive, and, in the future, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability. If and when we obtain marketing approval for any of our product candidates, we intend to expand our insurance coverage to include the sale of commercial products; however, we may be unable to obtain this product liability insurance on commercially reasonable terms. On occasion, large judgments have been awarded in class action lawsuits based on drugs that had unanticipated adverse effects. A successful product liability claim or series of claims brought against us could cause our stock price to decline and, if judgments exceed our insurance coverage, could decrease our cash and adversely affect our business.

If we use hazardous and biological materials in a manner that causes injury or violates applicable law, we may be liable for damages.

Our research and development activities involve the controlled use of potentially hazardous substances, including toxic chemical and biological materials. We could be held liable for any contamination, injury or other damages resulting from these hazardous substances. In addition, our operations produce hazardous waste products. While third parties are responsible for disposal of our hazardous waste, we could be liable under environmental laws for any required cleanup of sites at which our waste is disposed. Federal, state, foreign and local laws and regulations govern the use, manufacture, storage, handling and disposal of these hazardous materials. If we fail to comply with these laws and regulations at any time, or if they change, we may be subject to criminal sanctions and substantial civil liabilities, which may harm our business. Even if we continue to comply with all applicable laws and regulations regarding hazardous materials, we cannot eliminate the risk of accidental contamination or discharge and our resultant liability for any injuries or other damages caused by these accidents.

We rely on third parties to conduct, supervise and monitor our clinical studies, and those third parties may perform in an unsatisfactory manner, such as by failing to meet established deadlines for the completion of these clinical studies, or may harm our business if they suffer a catastrophic event.

We rely on third parties such as CROs, medical institutions and clinical investigators to enroll qualified patients and conduct, supervise and monitor our clinical studies. Our reliance on these third parties for clinical development activities reduces our control over these activities. Our reliance on these third parties, however, does not relieve us of our regulatory responsibilities, including ensuring that our clinical studies are conducted in accordance with good clinical practices, or GCP, and the investigational plan and protocols contained in the relevant regulatory application, such as the investigational new drug application, or IND. In addition, the CROs with whom we contract may not complete activities on schedule, or may not conduct our preclinical studies or clinical studies in accordance with regulatory requirements or our clinical study design. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, our efforts to obtain regulatory approvals for, and to commercialize, our product candidates may be delayed or prevented. In addition, if a catastrophe such as an earthquake, fire, flood or

power loss should affect one of the third parties on which we rely, our business prospects could be harmed. For example, if a central laboratory holding all of our clinical study samples were to suffer a catastrophic loss of their facility, we would lose all of our samples and would have to repeat our studies.

Table of Contents

Any failure by our third-party manufacturers on which we rely to produce our preclinical and clinical drug supplies and on which we intend to rely to produce commercial supplies of any approved product candidates may delay or impair our ability to commercialize our product candidates.

We have relied upon a small number of third-party manufacturers and active pharmaceutical ingredient formulators for the manufacture of our material for preclinical and clinical testing purposes and intend to continue to do so in the future. We also expect to rely upon third parties to produce materials required for the commercial production of our product candidates if we succeed in obtaining necessary regulatory approvals. If we are unable to arrange for third-party manufacturing sources, or to do so on commercially reasonable terms, we may not be able to complete development of our product candidates or market them.

Reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured product candidates ourselves, including reliance on the third party for regulatory compliance and quality assurance, the possibility of breach of the manufacturing agreement by the third party because of factors beyond our control (including a failure to synthesize and manufacture our product candidates in accordance with our product specifications) and the possibility of termination or nonrenewal of the agreement by the third party, based on its own business priorities, at a time that is costly or damaging to us. In addition, the FDA and other regulatory authorities require that our product candidates be manufactured according to cGMP and similar foreign standards. Any failure by our third-party manufacturers to comply with cGMP or failure to scale up manufacturing processes, including any failure to deliver sufficient quantities of product candidates in a timely manner, could lead to a delay in, or failure to obtain, regulatory approval of any of our product candidates. In addition, such failure could be the basis for action by the FDA to withdraw approvals for product candidates previously granted to us and for other regulatory action, including recall or seizure, total or partial suspension of production or injunction.

As part of our discussions to reactivate our US IND for A-623, we received a request from the FDA for additional information regarding the characterization and qualification of the already manufactured vials of A-623 and plans for any future manufactured vials of A-623 that we intend to use in clinical studies. In response to this request, we provided the FDA additional analytical data regarding all lots of previously manufactured A-623 to be utilized in the current PEARL-SC clinical study. In addition, since new vials of A-623 will be manufactured at a new facility by our partner Merck Biomanufacturing Network (recently acquired by Fujifilm), we are preparing and will submit a comparability protocol to the FDA to establish appropriate comparability and specifications requirements of newly manufactured vials of A-623 to be included in any future clinical studies. We anticipate submitting this protocol to the FDA in Q2 2011. Should the FDA not agree with our comparability protocol proposal or if we are unable to agree on the specifications for future A-623 manufacturing, further clinical development of A-623 beyond the PEARL-SC clinical study would be substantially delayed and we would incur substantial additional expense.

We rely on our manufacturers to purchase from third-party suppliers the materials necessary to produce our product candidates for our clinical studies. There are a small number of suppliers for certain capital equipment and raw materials that we use to manufacture our drugs. Such suppliers may not sell these raw materials to our manufacturers at the times we need them or on commercially reasonable terms. We do not have any control over the process or timing of the acquisition of these raw materials by our manufacturers. Moreover, we currently do not have any agreements for the commercial production of these raw materials. Although we generally do not begin a clinical study unless we believe we have a sufficient supply of a product candidate to complete the clinical study, any significant delay in the supply of a product candidate or the raw material components thereof for an ongoing clinical study due to the need to replace a third-party manufacturer could considerably delay completion of our clinical studies, product testing and potential regulatory approval of our product candidates. If our manufacturers or we are unable to purchase these raw materials after regulatory approval has been obtained for our product candidates, the commercial launch of our product candidates would be delayed or there would be a shortage in supply of such product candidates, which would impair our ability to generate revenues from the sale of our product candidates.

Because of the complex nature of our compounds, our manufacturers may not be able to manufacture our compounds at a cost or in quantities or in a timely manner necessary to make commercially successful products. If we successfully commercialize any of our drugs, we may be required to establish large-scale commercial manufacturing capabilities. In addition, as our drug development pipeline increases and matures, we will have a greater need for clinical study and

commercial manufacturing capacity. We have no experience manufacturing pharmaceutical products on a commercial scale and some of these suppliers will need to increase their scale of production to meet our projected needs for commercial manufacturing, the satisfaction of which on a timely basis may not be met.

If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell our product candidates, we may be unable to generate any revenue.

We do not currently have an organization for the sales, marketing and distribution of pharmaceutical products and the cost of establishing and maintaining such an organization may exceed the cost-effectiveness of doing so. In order to market any products that

Table of Contents

may be approved by the FDA, we must build our sales, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. If we are unable to establish adequate sales, marketing and distribution capabilities, whether independently or with third parties, we may not be able to generate product revenue and may not become profitable. We will be competing with many companies that currently have extensive and well-funded marketing and sales operations. Without an internal team or the support of a third party to perform marketing and sales functions, we may be unable to compete successfully against these more established companies.

Guidelines and recommendations published by various organizations may adversely affect the use of any products for which we may receive regulatory approval.

Government agencies issue regulations and guidelines directly applicable to us and to our product candidates. In addition, professional societies, practice management groups, private health or science foundations and organizations involved in various diseases from time to time publish guidelines or recommendations to the medical and patient communities. These various sorts of recommendations may relate to such matters as product usage and use of related or competing therapies. For example, organizations like the American Heart Association have made recommendations about therapies in the cardiovascular therapeutics market. Changes to these recommendations or other guidelines advocating alternative therapies could result in decreased use of any products for which we may receive regulatory approval, which may adversely affect our results of operations.

Risks Related to Our Intellectual Property

If our or our licensors patent positions do not adequately protect our product candidates or any future products, others could compete with us more directly, which would harm our business.

As of the date of this prospectus, we hold a total of four pending U.S. non-provisional patent applications, two pending U.S. provisional patent applications and two pending Patent Cooperation Treaty, or PCT, patent applications. Another PCT application has entered the national phase in the European Patent Office, the Eurasian Patent Organization and 17 other countries. We have also entered into exclusive license agreements for certain composition of matter, method of use and method of making patents and patent applications for certain of our development compounds. These license agreements encompass (i) 13 U.S. patents, one pending U.S. non-provisional patent application, five European, or EP, patents, one pending EP patent application, 20 non-EP foreign patents and three pending non-EP foreign patent applications relating to varespladib and A-001; (ii) more than 30 U.S. patents, one pending U.S. non-provisional patent application, six EP patents, one pending EP patent application, 13 issued non-EP foreign patents and one pending non-EP foreign patent applications relating to other $sPLA_2$ inhibiting compounds including A-003; and (iii) two U.S. patents, one pending U.S. non-provisional patent application, one EP patent, two pending EP patent applications, eleven non-EP foreign patents and 13 non-EP foreign patent applications relating to A-623. Our commercial success will depend in part on our and our licensors ability to obtain additional patents and protect our existing patent positions, particularly those patents for which we have secured exclusive rights, as well as our ability to maintain adequate protection of other intellectual property for our technologies, product candidates and any future products in the United States and other countries. If we or our licensors do not adequately protect our intellectual property, competitors may be able to use our technologies and erode or negate any competitive advantage we may have, which could materially harm our business, negatively affect our position in the marketplace, limit our ability to commercialize our product candidates and delay or render impossible our achievement of profitability. The laws of some foreign countries do not protect our proprietary rights to the same extent as the laws of the United States, and we may encounter significant problems in protecting our proprietary rights in these countries.

The patent positions of biotechnology and pharmaceutical companies, including our patent position, involve complex legal and factual questions, and, therefore, validity and enforceability cannot be predicted with certainty. Patents may be challenged, deemed unenforceable, invalidated or circumvented. We and our licensors will be able to protect our proprietary rights from unauthorized use by third parties only to the extent that our proprietary technologies, product candidates and any future products are covered by valid and enforceable patents or are effectively maintained as trade secrets.

The degree of future protection for our proprietary rights is uncertain, and we cannot ensure that:

- we or our licensors were the first to make the inventions covered by each of our pending patent applications;

we or our licensors were the first to file patent applications for these inventions;

others will not independently develop similar or alternative technologies or duplicate any of our technologies;

any of our or our licensors pending patent applications will result in issued patents;

Table of Contents

any of our or our licensors patents will be valid or enforceable;

any patents issued to us or our licensors and collaborators will provide a basis for commercially viable products, will provide us with any competitive advantages or will not be challenged by third parties;

we will develop additional proprietary technologies or product candidates that are patentable; or

the patents of others will not have an adverse effect on our business.

We may be unable to adequately prevent disclosure of trade secrets and other proprietary information.

We rely on trade secrets to protect our proprietary know-how and technological advances, especially where we do not believe patent protection is appropriate or obtainable. However, trade secrets are difficult to protect. We rely in part on confidentiality agreements with our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors to protect our trade secrets and other proprietary information. These agreements may not effectively prevent disclosure of confidential information and may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. In addition, others may independently discover our trade secrets and proprietary information. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights. Failure to obtain or maintain trade secret protection could enable competitors to use our proprietary information to develop products that compete with our products or cause additional, material adverse effects upon our competitive business position.

We license patent rights from third-party owners. If we, or such owners, do not properly maintain or enforce the patents underlying such licenses, our competitive position and business prospects will be harmed.

We have obtained exclusive, worldwide licenses, except for Japan, of the composition of matter, methods of making and methods of use for certain $sPLA_2$ compounds from Eli Lilly and Shionogi & Co., Ltd. In addition, we are party to a license agreement with Amgen that provides exclusive and worldwide rights to develop and commercialize A-623, a novel BAFF inhibitor, as well as non-exclusive rights to certain technology relating to peptibody compositions and formulations. We may enter into additional licenses to third-party intellectual property in the future.

We depend in part on our licensors to protect the proprietary rights covering our in-licensed $sPLA_2$ compounds and A-623, respectively. Our licensors are responsible for maintaining certain issued patents and prosecuting certain patent applications. We have limited, if any, control over the amount or timing of resources that our licensors devote on our behalf or the priority they place on maintaining these patent rights and prosecuting these patent applications to our advantage. Our licensors may also be notified of alleged infringement and be sued for infringement of third-party patents or other proprietary rights. We may have limited, if any, control or involvement over the defense of these claims, and our licensors could be subject to injunctions and temporary or permanent exclusionary orders in the United States or other countries. Our licensors are not obligated to defend or assist in our defense against third-party claims of infringement. We have limited, if any, control over the amount or timing of resources, if any, that our licensors devote on our behalf or the priority they place on defense of such third-party claims of infringement.

Our success will depend in part on the ability of us or our licensors to obtain, maintain and enforce patent protection for their intellectual property, in particular, those patents to which we have secured exclusive rights. We or our licensors may not successfully prosecute the patent applications which we have licensed. Even if patents issue in respect of these patent applications, we or our licensors may fail to maintain these patents, may determine not to pursue litigation against other companies that are infringing these patents or may pursue such litigation less aggressively than we would. Without protection for the intellectual property we license, other companies might be able to offer substantially identical products for sale, which could adversely affect our competitive business position and harm our business prospects.

If we do not obtain protection under the Hatch-Waxman Act and similar foreign legislation to extend our licensed patent terms and to obtain market exclusivity for our product candidates, our business will be materially harmed.

The United States Drug Price Competition and Patent Term Restoration Act of 1984, more commonly known as the Hatch-Waxman Act, provides for an extension of patent term for drug compounds for a period of up to five years to compensate for time spent in the regulatory approval process. Assuming we gain a five-year patent term extension for each of our current product candidates in clinical development, and that we continue to have rights under our license

agreements with respect to these product candidates, we would have exclusive rights to varespladib s U.S. new chemical entity patent (the primary patent covering the compound as a new composition of matter) until 2019 and to A-623 s U.S. new chemical entity patent until 2027. In Europe, similar legislative enactments

allow patent terms in the European Union to be extended for up to five years through the grant of a Supplementary Protection Certificate. Assuming we gain such a five-year extension for each of our current product candidates in clinical development, and that we continue to have rights under our license agreements with respect to these product candidates, we would have exclusive rights to varespladib s European new chemical entity patents until 2020 and to A-623 s European new chemical entity patents until 2027. In addition, since varespladib has not been previously approved in the United States, varespladib could be eligible for up to five years of New Chemical Entity, or NCE, exclusivity from the FDA. NCE exclusivity would prevent the FDA from approving any generic competitor following NDA approval independent of the patent status of varespladib. Further, since A-623 has not been previously approved, A-623 could be eligible for 12 years of data exclusivity from the FDA. During the data exclusivity period, competitors are barred from relying on the innovator biologic s safety and efficacy data to gain approval. Similarly, the European Union provides that companies who receive regulatory approval for a new small molecule compound or biologic will have a 10-year period of data exclusivity for that compound or biologic (with the possibility of a further one-year extension) in most EU countries, beginning on the date of such European regulatory approval, regardless of when the European new chemical entity patent covering such compound expires. A generic version of the approved drug may not be marketed or sold during such market exclusivity period. However, there is no assurance that we will receive the extensions of our patents or other exclusive rights available under the Hatch-Waxman Act or similar foreign legislation. If we fail to receive such Hatch-Waxman extensions or marketing exclusivity rights or if we receive extensions that are materially shorter than expected, our ability to prevent competitors from manufacturing, marketing and selling generic versions of our products will be materially harmed.

Our current patent positions and license portfolio may not include all patent rights needed for the full development and commercialization of our product candidates. We cannot be sure that patent rights we may need in the future will be available for license to us on commercially reasonable terms, or at all.

We typically develop our product candidates using compounds for which we have in-licensed and original composition of matter patents and patents that claim the activities and methods for such compounds production and use to the extent known at that time. As we learn more about the mechanisms of action and new methods of manufacture and use of these product candidates, we may file additional patent applications for these new inventions or we may need to ask our licensors to file them. We may also need to license additional patent rights or other rights on compounds, treatment methods or manufacturing processes because we learn that we need such rights during the continuing development of our product candidates.

Although our in-licensed and original patents may prevent others from making, using or selling similar products, they do not ensure that we will not infringe the patent rights of third parties. We may not be aware of all patents or patent applications that may impact our ability to make, use or sell any of our product candidates or proposed product candidates. For example, because we sometimes identify the mechanism of action or molecular target of a given product candidate after identifying its composition of matter and therapeutic use, we may not be aware until the mechanism or target is further elucidated that a third party has an issued or pending patent claiming biological activities or targets that may cover our product candidate. U.S. patent applications filed after November 29, 2000 are confidential in the U.S. Patent and Trademark Office for the first 18 months after such applications earliest priority date, and patent offices in non-U.S. countries often publish patent applications for the first time six months or more after filing. Furthermore, we may not be aware of published or granted conflicting patent rights. Any conflicts resulting from patent applications and patents of others could significantly reduce the coverage of our patents and limit our ability to obtain meaningful patent protection. If others obtain patents with conflicting claims, we may need to obtain licenses to these patents or to develop or obtain alternative technology.

We may not be able to obtain any licenses or other rights to patents, technology or know-how from third parties necessary to conduct our business as described in this prospectus and such licenses, if available at all, may not be available on commercially reasonable terms. Any failure to obtain such licenses could delay or prevent us from developing or commercializing our drug candidates or proposed product candidates, which would harm our business. Litigation or patent interference proceedings may be necessarily brought against third parties, as discussed below, to enforce any of our patents or other proprietary rights or to determine the scope and validity or enforceability of the proprietary rights of such third parties.

Litigation regarding patents, patent applications and other proprietary rights may be expensive and time consuming. If we are involved in such litigation, it could cause delays in bringing product candidates to market and harm our ability to operate.

Our commercial success will depend in part on our ability to manufacture, use, sell and offer to sell our product candidates and proposed product candidates without infringing patents or other proprietary rights of third parties. Although we are not currently aware of any litigation or other proceedings or third-party claims of intellectual property infringement related to our product candidates, the pharmaceutical industry is characterized by extensive litigation regarding patents and other intellectual property rights. Other parties may obtain patents in the future and allege that the use of our technologies infringes these patent claims or that we are employing their proprietary technology without authorization. Likewise, third parties may challenge or infringe upon our or our licensors existing or future patents.

Table of Contents

Proceedings involving our patents or patent applications or those of others could result in adverse decisions regarding the patentability of our inventions relating to our product candidates or the enforceability, validity or scope of protection offered by our patents relating to our product candidates.

Even if we are successful in these proceedings, we may incur substantial costs and divert management time and attention in pursuing these proceedings. If we are unable to avoid infringing the patent rights of others, we may be required to seek a license, defend an infringement action or challenge the validity of the patents in court. Patent litigation is costly and time-consuming. We may not have sufficient resources to bring these actions to a successful conclusion. In addition, if we do not obtain a license, develop or obtain non-infringing technology, fail to defend an infringement action successfully or have our patents declared invalid, we may incur substantial monetary damages; encounter significant delays in bringing our product candidates to market; or be precluded from participating in the manufacture, use or sale of our product candidates or methods of treatment requiring licenses.

Risks Related to the Securities Markets and Investment in Our Common Stock

Market volatility may affect our stock price and the value of your investment.

The market price for our common stock has been, and is likely to continue to be, volatile. In addition, the market price of our common stock may fluctuate significantly in response to a number of factors, most of which we cannot predict or control, including:

- plans for, progress in and results from clinical studies for varespladib, A-623, A-001 and our other product candidates;
- announcements of new products, services or technologies, commercial relationships, acquisitions or other events by us or our competitors;
- developments concerning proprietary rights, including those pertaining to patents held by Eli Lilly and Shionogi & Co., Ltd. concerning our $sPLA_2$ inhibitors and Amgen concerning A-623;
- failure of any of our product candidates, if approved, to achieve commercial success;
- fluctuations in stock market prices and trading volumes of securities of similar companies;
- general market conditions and overall fluctuations in U.S. equity markets;
- variations in our operating results, or the operating results of our competitors;
- changes in our financial guidance or securities analysts estimates of our financial performance;
- changes in accounting principles;
- sales of large blocks of our common stock, including sales by our executive officers, directors and significant stockholders;
- additions or departures of any of our key personnel;
- announcements related to litigation;
- changing legal or regulatory developments in the United States and other countries; and
- discussion of us or our stock price by the financial press and in online investor communities.

Although our common stock is listed for trading on the NASDAQ Global Market, our securities have been relatively thinly traded. Investor trading patterns could serve to exacerbate the volatility of the price of the stock. Accordingly, it

may be difficult to sell shares of common stock quickly without significantly depressing the value of the stock. Unless we are successful in developing continued investor interest in our stock, sales of our stock could result in major fluctuations in the price of the stock.

Table of Contents

In addition, the stock market in general, and The NASDAQ Global Market in particular, have experienced substantial price and volume volatility that is often seemingly unrelated to the operating performance of particular companies. These broad market fluctuations may cause the trading price of our common stock to decline. In the past, securities class action litigation has often been brought against a company after a period of volatility in the market price of its common stock. We may become involved in this type of litigation in the future. Any securities litigation claims brought against us could result in substantial expenses and the diversion of our management s attention from our business.

Because a small number of our existing stockholders own a majority of our voting stock, your ability to influence corporate matters will be limited.

Our executive officers, directors and greater than 5% stockholders, in the aggregate, own approximately 75% of our outstanding common stock. As a result, such persons, acting together, will have the ability to control our management and affairs and substantially all matters submitted to our stockholders for approval, including the election and removal of directors and approval of any significant transaction. These persons will also have the ability to control our management and business affairs. This concentration of ownership may have the effect of delaying, deferring or preventing a change in control, impeding a merger, consolidation, takeover or other business combination involving us, or discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of our business, even if such a transaction would benefit other stockholders.

Future sales of our common stock may cause our stock price to decline.

As of December 31, 2010, there were 32,880,353 shares of our common stock outstanding. In addition, as of December 31, 2010, we had outstanding options to purchase shares of our common stock and restricted stock units of 1,578,491 that, if exercised or released, will result in these additional shares becoming available for sale. A large portion of these shares and outstanding equity awards are held by a small number of persons and investment funds. Sales by these stockholders or option holders of a substantial number of shares could significantly reduce the market price of our common stock. Moreover, certain holders of shares of common stock will have rights, subject to some conditions, to require us to file registration statements covering the shares they currently hold, or to include these shares in registration statements that we may file for ourselves or other stockholders.

We have registered all common stock that we may issue under our Amended and Restated 2010 Stock Option and Incentive Plan (the 2010 Plan) and our Employee Stock Purchase Plan (the ESPP). As of February 28, 2011, an aggregate of 1,778,261 shares of our common stock has been reserved for future issuance under the 2010 Plan, plus any shares reserved and unissued under our 2005 Equity Incentive Plan, and an aggregate of 350,000 shares has been reserved for future issuance under our ESPP. These shares can be freely sold in the public market upon issuance, subject to the lock-up agreements referred to above. If a large number of these shares are sold in the public market, the sales could reduce the trading price of our common stock.

We may need to raise additional capital to fund our operations, which may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights.

We may seek additional capital through a combination of private and public equity offerings, debt financings and collaboration, strategic and licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest may be diluted, and the terms may include liquidation or other preferences that adversely affect your rights as a stockholder. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions such as incurring debt, making capital expenditures or declaring dividends. If we raise additional funds through collaboration, strategic alliance and licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies or product candidates or grant licenses on terms that are not favorable to us.

Operating as a public company increases our expenses and administrative burden.

As a public company, we incur significant legal, accounting and other expenses that we did not incur as a private company. In addition, our administrative staff will be required to perform additional tasks. For example, the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, as well as rules subsequently implemented by the Securities and Exchange Commission, or SEC, and The NASDAQ Global Market, impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and changes in

corporate governance practices. We must also bear all of the internal and external costs of preparing and distributing periodic public reports in compliance with our obligations under the securities laws.

In particular, the Sarbanes-Oxley Act requires, among other things, that we maintain effective internal control over financial reporting and disclosure controls and procedures. Commencing in 2011, we must perform system and process evaluation and testing of our internal control over financial reporting to allow management and our independent registered public accounting firm to report on the

Table of Contents

effectiveness of our internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act. Our compliance with Section 404 will require that we incur substantial accounting expense and expend significant management time on compliance-related issues. Moreover, if we are not able to comply with the requirements of Section 404 in a timely manner, our stock price could decline, and we could face sanctions, delisting or investigations by The NASDAQ Global Market, or other material adverse effects on our business, reputation, results of operations, financial condition or liquidity.

We do not intend to pay dividends on our common stock so any returns will be limited to the value of our stock.

We have never declared or paid any cash dividend on our common stock. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. Any return to stockholders will therefore be limited to the value of their stock.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws may delay or prevent an acquisition of us or a change in our management. These provisions include:

a classified and staggered board of directors whose members can only be dismissed for cause;

the prohibition on actions by written consent of our stockholders;

the limitation on who may call a special meeting of stockholders;

the establishment of advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted upon at stockholder meetings;

the ability of our board of directors to issue preferred stock without stockholder approval, which would increase the number of outstanding shares and could thwart a takeover attempt; and

the requirement of at least 75% of the outstanding common stock to amend any of the foregoing provisions.

In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which limits the ability of stockholders owning in excess of 15% of our outstanding voting stock to merge or combine with us. Although we believe these provisions collectively provide for an opportunity to obtain greater value for stockholders by requiring potential acquirors to negotiate with our board of directors, they would apply even if an offer rejected by our board were considered beneficial by some stockholders. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management.

Our ability to use our net operating loss carryforwards may be subject to limitation and may result in increased future tax liability to us.

Generally, a change of more than 50% in the ownership of a corporation s stock, by value, over a three-year period constitutes an ownership change for U.S. federal income tax purposes. An ownership change may limit a company s ability to use its net operating loss carryforwards attributable to the period prior to such change. We have not performed a detailed analysis to determine whether an ownership change under Section 382 of the Internal Revenue Code has occurred after each of our previous private placements of preferred stock and convertible debt, or our previous issuances of common stock, which if sufficient, taking into account prior or future shifts in our ownership over a three-year period, could cause us to undergo an ownership change. As a result, if we earn net taxable income, our ability to use our pre-change net operating loss carryforwards to offset U.S. federal taxable income may become subject to limitations, which could potentially result in increased future tax liability to us.

Table of Contents

USE OF PROCEEDS

The proceeds from the resale of the shares of common stock under this prospectus are solely for the account of the selling stockholders identified in this prospectus. We may indirectly receive proceeds of up to an aggregate of $1,357,552 to the extent that any selling stockholders exercise warrants to purchase shares of common stock for cash, which shares may then be resold under this prospectus; however, we will not directly receive any proceeds from the sale of shares under this prospectus. We intend to use the net proceeds generated by warrant exercises, if any, for general corporate purposes. We cannot estimate how many, if any, of the warrants will be exercised as a result of this offering.

Table of Contents

SELLING SECURITY HOLDERS

This prospectus covers the resale of 6,547,797 shares of common stock and 193,936 shares of common stock issuable upon outstanding warrants held by existing stockholders who have registration rights, and their trustees, pledges, doners or successors. Such shares were issued to the selling stockholders in various transactions as described below. The following discussion reflects a 1-to-1.712 reverse split of our common stock effected on February 22, 2010, and the conversion of our preferred stock into shares of common stock in connection with our initial public offering on March 4, 2010.

198,598 shares of common stock registered for resale under this prospectus were originally issued to certain of the selling stockholders in a private placement transaction that closed on January 15, 2005 and April 1, 2005. An aggregate of 552,530 shares of our Series A convertible preferred stock, which was subsequently reclassified as Series A-1 convertible preferred stock, were issued in such transaction at a purchase price of $1.47 per share.

776,903 shares of common stock registered for resale under this prospectus were originally issued to certain of the selling stockholders in a private placement transaction that closed on August 4, 2006. We sold an aggregate of 1,620,669 shares of our Series A-2 convertible preferred stock for cash consideration, consideration received upon the conversion of certain outstanding promissory notes and in exchange for licensed technology. 224,248 shares of our Series A-2 convertible preferred stock were issued upon the conversion of such promissory notes, 257,744 shares were issued in exchange for licensed technology and the remaining 1,138,677 shares were sold in such transaction at a price of $5.14 per share.

1,162,699 shares of common stock registered for resale under this prospectus were originally issued to certain of the selling stockholders in a private placement transaction that closed on December 15, 2006. 2,619,568 shares of our Series B convertible preferred stock, which was subsequently reclassified as Series B-1 convertible preferred stock, were sold at a per share price of $7.28 and 127,297 shares were issued in exchange for licensed technology in such transaction.

1,585,241 shares of common stock registered for resale under this prospectus were originally issued to certain of the selling stockholders in a private placement transaction that closed on August 12, 2008. We issued an aggregate of 3,226,244 shares of our Series B-2 convertible preferred stock, 2,264,178 shares of which were issued upon the conversion of certain outstanding promissory notes and the remaining 962,066 shares of which were sold at a price of $7.28 per share. In addition, we issued warrants to purchase 240,516 shares of our common stock at an exercise price of $1.34 per share in such transaction to certain of the selling stockholders. Such warrants were exercised on a cashless basis in connection with our initial public offering, resulting in 194,474 shares of common stock, 97,237 shares of which are registered for resale under this prospectus.

908,625 shares of common stock and 193,936 shares of common stock issuable upon outstanding warrants registered for resale under this prospectus were originally issued to certain of the selling stockholders in a private placement transaction that closed on July 17, 2009 and September 9, 2009. We sold convertible promissory notes and warrants to purchase shares of our equity securities for an aggregate purchase price of $10.0 million. In connection with our initial public offering, the notes converted into an aggregate of 1,985,575 shares of our common stock and the warrants became exercisable for an aggregate of 357,136 shares of our common stock at an exercise price of $7.00 per share.

1,445,889 shares of common stock registered for resale under this prospectus were originally issued to certain of the selling stockholders in a private placement transaction that closed in connection with our initial public offering on March 4, 2010. Concurrently with the closing of our initial public offering, we sold an aggregate of 2,598,780 shares of common stock at a purchase price of $6.58 per share in such transaction.

285,438 shares of common stock registered for resale under this prospectus were originally issued to certain of the selling stockholders in a private placement transaction that closed on December 11, 2009. We sold convertible promissory notes for an aggregate purchase price of $3.4 million in such transaction. In connection with our initial public offering, the notes converted into an aggregate of 526,660 shares of our common stock.

87,167 shares of common stock registered for resale under this prospectus were originally issued to certain of the selling stockholders pursuant to the exercise of stock options.

The following table sets forth certain information regarding the selling stockholders and the shares of common stock beneficially owned by them and issuable to the selling stockholders upon a cash exercise of the warrants, which

information is available to us as of March 4, 2011. The selling stockholders may offer the shares under this prospectus from time to time and may elect to sell some, all or none of the shares set forth next to their name. As a result, we cannot estimate the number of shares of common stock that a selling

Table of Contents

stockholder will beneficially own after termination of sales under this prospectus. However, for the purposes of the table below, we have assumed that, after completion of the offering, none of the shares covered by this prospectus will be held by the selling stockholders. In addition, a selling stockholder may have sold, transferred or otherwise disposed of all or a portion of that holder s shares of common stock since the date on which they provided information for this table. We have not made independent inquiries about this. We are relying on written commitments from the selling stockholders to notify us of any changes in their beneficial ownership after the date they originally provided this information. See section entitled Plan of Distribution beginning on page 27.

Selling Stockholder	# of Shares Beneficially Owned Before Offering[1]	# of Shares Offered	# of Shares Underlying Warrants Offered	# of Shares Beneficially Owned After Offering[1]	% of Shares Beneficially Owned After Offering[1]
Sofinnova Venture Partners VI, L.P. and affiliated entities[2]	4,177,621	3,563,064	105,418	509,139	1.55%
HBM BioCapital, L.P. and affiliated entities[3]	1,702,471	260,396	30,505	1,411,570	4.27%
A.M. Pappas Life Sciences Ventures III, L.P. and affiliated entities[4]	1,813,140	930,332	27,507	855,301	2.58%
Caxton Advantage Life Sciences Fund, L.P.[5]	1,561,813	1,008,271	30,506	523,036	1.59%
Eli Lilly and Company	602,323	336,366		265,957	*
The Sears Trust U/A dtd 03/11/1991[6]	394,799	324,706		70,093	*
Shionogi & Co., Ltd.	390,619	124,662		265,957	*
Total	10,642,786	6,547,797	193,936	3,901,053	11.74%

* Less than 1%.

(1) Beneficial ownership is determined in accordance with the rules of the SEC and includes voting or investment power with respect to the shares indicated in the table. Percentage ownership calculations are based on 32,906,412 shares outstanding as of January 31, 2011.

(2) Includes (i) 3,360,574 shares of common stock (2,940,408 shares of which are registered for resale under this prospectus) and 86,996 shares of common stock issuable upon exercise of warrants (all of which are registered for resale under this prospectus), all owned of record by Sofinnova Venture Partners VI, L.P.; (ii) 665,820 shares of common stock (582,574 shares of which are registered for resale under this prospectus) and 17,237 shares of common stock issuable upon exercise of warrants (all of which are registered for resale under this prospectus), all owned of record by Sofinnova Venture Partners VI GmbH & Co. KG; and (iii) 45,809 shares of common stock (40,082 shares of which are registered for resale under this prospectus) and 1,185 shares of common stock issuable upon exercise of warrants (all of which are registered for resale under this prospectus), all owned of record by Sofinnova Venture Affiliates VI, L.P. Alain Azan, Eric Buatois, Michael Powell and Dr. James I. Healy are the managing members of the general partner of the limited partnership, that directly hold such shares, and as such, may be deemed to share voting and investment power with respect to such shares. Dr. Healy is a director of Anthera. Messrs. Azan, Buatois and Powell and Dr. Healy disclaim beneficial ownership, except to the extent of their proportionate pecuniary interest in Sofinnova.

(3) Includes (i) 1,307,840 shares of common stock (221,337 shares of which are registered for resale under this prospectus) and 139,263 shares of common stock issuable upon exercise of warrants (25,930 shares of which are registered for resale under this prospectus), all owned of record by HBM BioCapital (EUR) L.P. and (ii) 230,793 shares of common stock (39,059 shares of which are registered for resale under this prospectus) and 24,575 shares of common stock issuable upon exercise of warrants (4,575 shares of which are registered for resale under this prospectus), all owned of record by HBM BioCapital (USD) L.P., collectively, the HBM BioCapital Funds. The board of directors of HBM BioCapital Ltd., the general partner of the HBM BioCapital Funds, has sole voting and dispositive power with respect to such shares. The board of directors of HBM BioCapital Ltd. consists of John Arnold, Sophia Harris, Richard Coles, Dr. Andreas Wicki and John Urquhart, none of whom has individual voting or investment power with respect to the shares.

(4) Includes (i) 1,505,394 shares of common stock (875,890 shares of which are registered for resale under this prospectus) and 201,638 shares of common stock issuable upon exercise of warrants (25,897 shares of which are registered for resale under this prospectus), all owned of record by A. M. Pappas Life Science Ventures III, L.P. and (ii) 93,572 shares of common stock (54,442 shares of which are registered for resale under this prospectus) and 12,536 shares of common stock issuable upon exercise of warrants (1,610 shares of which are registered for resale under this prospectus), all owned of record by PV III CEO Fund, L.P. Arthur M. Pappas, in his role as chairman of the investment committee of AMP&A Management III, LLC, the general partner of A.M. Pappas Life Science Ventures III, L.P. and PV III CEO Fund, L.P., has voting and investment authority over these shares. Mr. Pappas disclaims beneficial ownership of these shares except to the extent of his pecuniary interest arising therein.

(5) Includes (i) 1,423,896 shares of common stock (1,008,271 shares of which are registered for resale under this prospectus) and 130,506 shares of common stock issuable upon exercise of warrants (30,506 shares of which are registered for resale under this prospectus), all owned of record by Caxton Advantage Life Sciences Fund, L.P and (ii) options to purchase an additional 7,411

Table of Contents

shares of common stock that are exercisable within 60 days of January 31, 2011 that are owned of record by Dr. A. Rachel Leheny over which Caxton Advantage Life Sciences Fund, L.P. may be deemed to hold voting power. Caxton Advantage Venture Partners, L.P. has voting and investment power with respect to such shares. Decisions by Caxton Advantage Venture Partners, L.P. with respect to such shares are made by Advantage Life Sciences Partners, LLC, the Managing General Partner of Caxton Advantage Venture Partners, L.P., together with the investment committee of Caxton Advantage Venture Partners, L.P. Dr. Leheny and Eric Roberts have authority to take action on behalf of Advantage Life Sciences Partners, LLC as members of Advantage Life Sciences Partners, LLC. The investment committee of Caxton Advantage Venture Partners, L.P. as of the date hereof is comprised of (i) Mr. Roberts, (ii) Dr. Leheny, (iii) Bruce Kovner and (iv) Peter D Angelo and the consent of four members is required with respect to any decision by the Investment Committee. Dr. Leheny is (i) a Managing Director of Caxton Advantage Venture Partners, L.P., which is the General Partner of Caxton Advantage Life Sciences Fund, L.P., a life-sciences venture capital fund that she co-founded in 2006 and is (ii) a member of Advantage Life Sciences Partners LLC. Mr. Roberts and Dr. Leheny and the members of the Caxton Advantage Venture Partners, L.P. investment committee disclaim beneficial ownership, except to the extent of their proportionate pecuniary interests, either directly, or indirectly through Caxton Advantage Venture Partners, L.P. (or through any other entity which is a limited partner in Caxton Advantage Life Sciences Fund, L.P.), in Caxton Advantage Life Sciences Fund, L.P.

(6) Lowell E. Sears serves as trustee and may be deemed to have voting and investment power with respect to such shares.

Table of Contents

PLAN OF DISTRIBUTION

We are registering an aggregate of 6,741,733 shares of common stock issued to the selling stockholders and issuable upon exercise of certain warrants issued to the selling stockholders to permit the resale of such shares of common stock by the holders thereof from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling stockholders of the shares of common stock. We will bear all fees and expenses incident to our obligation to register the shares of common stock.

The selling stockholders may sell all or a portion of the shares of common stock beneficially owned by them and offered hereby from time to time directly or through one or more underwriters, broker-dealers or agents. If the shares of common stock are sold through underwriters or broker-dealers, the selling stockholders will be responsible for underwriting discounts or commissions or agent s commissions. The shares of common stock may be sold on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale, in the over-the-counter market or in transactions otherwise than on these exchanges or systems or in the over-the-counter market and in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions. The selling stockholders may use any one or more of the following methods when selling shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales entered into after the effective date of the registration statement of which this prospectus is a part;
- broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- through the writing or settlement of options or other hedging transactions, whether such options are listed on an options exchange or otherwise;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The selling stockholders also may resell all or a portion of the shares in open market transactions in reliance upon Rule 144 under the Securities Act, as permitted by that rule, or Section 4(1) under the Securities Act, if available, rather than under this prospectus, provided that they meet the criteria and conform to the requirements of those provisions.

Broker-dealers engaged by the selling stockholders may arrange for other broker-dealers to participate in sales. If the selling stockholders effect such transactions by selling shares of common stock to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling stockholders or commissions from purchasers of the shares of common stock for whom they may act as agent or to whom they may sell as principal. Such commissions will be in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency

transaction will not be in excess of a customary brokerage commission in compliance with the Financial Industry Regulatory Authority or FINRA, Rule 2440; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2440.

In connection with sales of the shares of common stock or otherwise, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the shares of common stock in the course of hedging in positions they assume. The selling stockholders may also sell shares of common stock short and if such short sale shall take place after the date that this registration statement is declared effective by the SEC, the selling stockholders may deliver shares of common stock covered by this prospectus to close out short positions and to return borrowed shares in connection with such short sales. The selling stockholders may also loan or pledge shares of common stock to broker-dealers that in turn may sell such shares, to the extent permitted by applicable law. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction). Notwithstanding the foregoing, the selling stockholders have been advised that they may not use shares registered on this registration statement to cover short sales of our common stock made prior to the date the registration statement, of which this prospectus forms a part, has been declared effective by the SEC.

Table of Contents

The selling stockholders may, from time to time, pledge or grant a security interest in some or all of the warrants or shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock from time to time pursuant to this prospectus or any amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act, amending, if necessary, the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer and donate the shares of common stock in other circumstances in which case the transferees, donees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

The selling stockholders and any broker-dealer or agents participating in the distribution of the shares of common stock may be deemed to be underwriters within the meaning of Section 2(11) of the Securities Act in connection with such sales. In such event, any commissions paid, or any discounts or concessions allowed to, any such broker-dealer or agent and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. selling stockholders who are underwriters within the meaning of Section 2(11) of the Securities Act will be subject to the applicable prospectus delivery requirements of the Securities Act including Rule 172 thereunder and may be subject to certain statutory liabilities of, including but not limited to, Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Securities Exchange Act of 1934, as amended, or the Exchange Act.

Each selling stockholder has informed the Company that it is not a registered broker-dealer and does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the common stock. Upon the Company being notified in writing by a selling stockholder that any material arrangement has been entered into with a broker-dealer for the sale of common stock through a block trade, special offering, exchange distribution or secondary distribution or a purchase by a broker or dealer, a supplement to this prospectus will be filed, if required, pursuant to Rule 424(b) under the Securities Act, disclosing (i) the name of each such selling stockholder and of the participating broker-dealer(s), (ii) the number of shares involved, (iii) the price at which such the shares of common stock were sold, (iv) the commissions paid or discounts or concessions allowed to such broker-dealer(s), where applicable, (v) that such broker-dealer(s) did not conduct any investigation to verify the information set out or incorporated by reference in this prospectus, and (vi) other facts material to the transaction. In no event shall any broker-dealer receive fees, commissions and markups, which, in the aggregate, would exceed eight percent (8.0%). Under the securities laws of some states, the shares of common stock may be sold in such states only through registered or licensed brokers or dealers. In addition, in some states the shares of common stock may not be sold unless such shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with.

There can be no assurance that any selling stockholder will sell any or all of the shares of common stock registered pursuant to the registration statement, of which this prospectus forms a part.

Each selling stockholder and any other person participating in such distribution will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including, without limitation, to the extent applicable, Regulation M of the Exchange Act, which may limit the timing of purchases and sales of any of the shares of common stock by the selling stockholder and any other participating person. To the extent applicable, Regulation M may also restrict the ability of any person engaged in the distribution of the shares of common stock to engage in market-making activities with respect to the shares of common stock. All of the foregoing may affect the marketability of the shares of common stock and the ability of any person or entity to engage in market-making activities with respect to the shares of common stock.

We will pay all expenses of the registration of the shares of common stock pursuant to the registration rights agreement, including, without limitation, SEC filing fees and expenses of compliance with state securities or blue sky laws; *provided*, *however*, that each selling stockholder will pay all underwriting discounts and selling commissions, if any and any related legal expenses incurred by it. We will indemnify the selling stockholders against certain liabilities, including some liabilities under the Securities Act, in accordance with the registration rights agreement, or the selling stockholders will be entitled to contribution. We may be indemnified by the selling stockholders against civil liabilities, including liabilities under the Securities Act, that may arise from any written information furnished to us by

the selling stockholders specifically for use in this prospectus, in accordance with the related registration rights agreements, or we may be entitled to contribution.

Table of Contents

LEGAL MATTERS

The validity of the shares of common stock offered by this prospectus will be passed upon for us by Goodwin Procter LLP, San Francisco, California.

EXPERTS

The financial statements of the Company incorporated in this prospectus by reference from the Company s Annual Report on Form 10-K for the year ended December 31, 2010 have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report (which report expresses an unqualified opinion and includes an explanatory paragraph regarding the Company s development stage status), which is incorporated herein by reference. Such financial statements have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed a registration statement, of which this prospectus is a part, covering the securities offered hereby. As allowed by SEC rules, this prospectus does not include all of the information contained in the registration statement. You are referred to the registration statement and the included exhibits for further information. This prospectus is qualified in its entirety by such other information.

We are subject to the informational requirements of the Securities Exchange Act and file annual, quarterly and current reports, proxy statements and other information with the SEC. You can read our SEC filings, including the registration statement, over the Internet at the SEC s website at www.sec.gov. You may also read and copy any document we file with the SEC at its Public Reference Room at 100 F Street, N.E., Washington, D.C., 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference facility. Additionally, we make these filings available, free of charge, on our website at *www.anthera.com* as soon as reasonably practicable after we electronically file such materials with, or furnish them to, the SEC.

Table of Contents

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference information in documents we file with them, which means that we can disclose important information to you by referring you to those documents. The information we incorporate by reference is considered to be part of this prospectus and information that we file later with the SEC automatically will update and supersede such information. We hereby incorporate by reference the documents listed below and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, prior to the termination of the offering of the securities covered by this prospectus:

1. The Company s Annual Report on Form 10-K for the year ended December 31, 2010, filed with the SEC on March 7, 2011.

2. The Company s Current Report on Form 8-K, filed with the SEC on February 1, 2011.

3. The description of the Company s common stock contained in the Registration Statement on Form 8-A (Registration No. 001-34637), filed with the Commission under Section 12(b) of the Securities Exchange Act of 1934, as amended, on February 22, 2010, including any amendments or reports filed for the purpose of updating such description.

We will provide, without charge, to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, upon such person s written or oral request, a copy of any and all of the information incorporated by reference in this prospectus, other than exhibits to such documents, unless such exhibits are specifically incorporated by reference into the information that this prospectus incorporates. Requests should be directed to the Corporate Secretary, Anthera Pharmaceuticals, Inc., 25801 Industrial Boulevard, Suite B, Hayward, California 94545; telephone: (510) 856-5600.

Table of Contents

6,741,733 SHARES OF COMMON STOCK

PROSPECTUS

, 2011

Table of Contents

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The expenses payable by us in connection with this offering are as follows:

	Amount
Securities and Exchange Commission registration fee	$ 2,591
Accountants fees and expenses	$ 10,000
Legal fees and expenses	$ 35,000
Miscellaneous	$ 50,000
Total Expenses	$ 97,591

All expenses are estimated except for the Securities and Exchange Commission fee.

Item 15. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law, or the DGCL, authorizes a corporation to indemnify its directors and officers against liabilities arising out of actions, suits and proceedings to which they are made or threatened to be made a party by reason of the fact that they have served or are currently serving as a director or officer to a corporation. The indemnity may cover expenses (including attorneys fees) judgments, fines and amounts paid in settlement actually and reasonably incurred by the director or officer in connection with any such action, suit or proceeding. Section 145 permits corporations to pay expenses (including attorneys fees) incurred by directors and officers in advance of the final disposition of such action, suit or proceeding. In addition, Section 145 provides that a corporation has the power to purchase and maintain insurance on behalf of its directors and officers against any liability asserted against them and incurred by them in their capacity as a director or officer, or arising out of their status as such, whether or not the corporation would have the power to indemnify the director or officer against such liability under Section 145.

We have adopted provisions in our certificate of incorporation and bylaws that limit or eliminate the personal liability of our directors to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended. Consequently, a director will not be personally liable to us or our stockholders for monetary damages or breach of fiduciary duty as a director, except for liability for:

- any breach of the director s duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- any unlawful payments related to dividends or unlawful stock purchases, redemptions or other distributions; or
- any transaction from which the director derived an improper personal benefit.

These limitations of liability do not alter director liability under the federal securities laws and do not affect the availability of equitable remedies such as an injunction or rescission.

In addition, our bylaws provide that:

- we will indemnify our directors, officers and, in the discretion of our board of directors, certain employees to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended; and
- we will advance reasonable expenses, including attorneys fees, to our directors and, in the discretion of our board of directors, to our officers and certain employees, in connection with legal proceedings relating to their service for or on behalf of us, subject to limited exceptions.

We have entered into indemnification agreements with each of our directors and our executive officers and, in several cases, amended and restated indemnification agreements with certain of their affiliates. These agreements provide that we will indemnify each of our directors, executive officers and, at times, their affiliates to the fullest extent permitted

by Delaware law. We will advance expenses, including attorneys fees, judgments, fines and settlement amounts, to each indemnified director, executive officer or affiliate in connection with any proceeding in which indemnification is available and we will indemnify our directors and officers for any action or proceeding arising out of that person s services as an officer or director brought on behalf of the Company or in furtherance of our rights. Additionally, each of our directors may have certain rights to indemnification, advancement of expenses or insurance provided

Table of Contents

by their affiliates, which indemnification relates to and might apply to the same proceedings arising out of such director s services as a director referenced herein. Nonetheless, we have agreed in the indemnification agreements that the Company s obligations to those same directors are primary and any obligation of the affiliates of those directors to advance expenses or to provide indemnification for the expenses or liabilities incurred by those directors are secondary.

We also maintain general liability insurance which covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers, including liabilities under the Securities Act.

Item 16. Exhibits

See Exhibit Index set forth on page 36 to this registration statement.

Item 17. Undertakings.

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective registration statement.

(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 (1)(i), (1)(ii) and (1)(iii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed 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 of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser: each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness; *provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(5) That, for purposes of determining any liability under the Securities Act, each filing of the registrant s annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan s annual report pursuant to Section 15(d) of the Exchange Act) 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.

Table of Contents

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.

Table of Contents

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 Post-Effective Amendment No. 1 to Form S-1 on Form S-3 registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Hayward, State of California, on March 7, 2011.

Anthera Pharmaceuticals, Inc.

By: /s/ Paul F. Truex
Paul F. Truex, President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Post-Effective Amendment No. 1 to Form S-1 on Form S-3 registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Paul F. Truex	President and Chief Executive	March 7, 2011
Paul F. Truex	Officer and Director (Principal Executive Officer	
/s/ Christopher P. Lowe	Chief Financial Officer	March 7, 2011
Christopher P. Lowe	(Principal Financial and Accounting Officer)	
*	Chairman of the Board of	March 7, 2011
Christopher S. Henney	Directors	
*	Director	March 7, 2011
Annette Bianchi		
*	Director	March 7, 2011
James I. Healy		
*	Director	March 7, 2011
Donald J. Santel		
*	Director	March 7, 2011
Daniel K. Spiegelman		
*	Director	March 7, 2011

David E. Thompson		
/s/ Peter A. Thompson	Director	March 7, 2011
Peter A. Thompson		

*By: /s/ Paul F. Truex

Paul F. Truex Attorney-in-fact

Table of Contents

EXHIBIT LIST

Number	Description
3.1	Fifth Amended and Restated Certificate of Incorporation(1)
3.2	Amended and Restated Bylaws(2)
4.1	Specimen certificate evidencing shares of common stock(3)
4.2	Second Amended and Restated Investor Rights Agreement by and among the Company and the other persons and entities party thereto, dated as of July 17, 2009(3)
5.1	Opinion of Goodwin Procter LLP +
23.1	Consent of Deloitte & Touche LLP, independent registered public accounting firm
23.2	Consent of Goodwin Procter LLP (included in Exhibit 5.1)
24.1	Power of Attorney (contained on signature page)
24.2	Power of Attorney for Peter A. Thompson

+ Previously filed

(1) Filed as Exhibit 3.6 to the registrant s Amendment No. 4 to Registration Statement on Form S-1 (File No. 333-161930), filed February 3, 2010 and incorporated herein by reference.

(2) Filed as Exhibit 3.7 to the registrant s Amendment No. 4 to Registration Statement on Form S-1 (File No. 333-161930), filed February 3, 2010 and incorporated herein by reference.

(3) Filed as the same numbered exhibit to the registrant s Amendment No. 3 to Registration Statement on Form S-1 (File No. 333-161930), filed January 29, 2010 and incorporated herein by reference.