Anthera Pharmaceuticals Inc
Form S-3
March 06, 2018
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As filed with the Securities and Exchange Commission on March 6, 2018

Registration No. 333-

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-3

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

ANTHERA PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**2834**	**20-1852016**
(State or other jurisdiction of incorporation or organization)	**(Primary Standard Industrial Classification Code Number)**	**(I.R.S. Employer Identification No.)**

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)

J. Craig Thompson

President and Chief Executive Officer

25801 Industrial Boulevard, Suite B

Hayward, California 94545

Telephone: (510) 856-5600

Facsimile: (510) 856-5597

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

Copies to:

Bradley A. Bugdanowitz

Goodwin Procter LLP

Three Embarcadero Center, 28th Floor

San Francisco, CA 94111

Telephone: (415) 733-6000

Facsimile: (415) 677-9041

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

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

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

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

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

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

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

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

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

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities To Be Registered	Amount to be Registered	Proposed Maximum Offering Price Per Unit	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee(3)
Common Stock, $0.001 par value per share	(1)	(2)	(2)	
Preferred Stock, $0.001 par value per share	(1)	(2)	(2)	
Warrants	(1)	(2)	(2)	
Units	(1)	(2)	(2)	
Total	(1)	(2)	$100,000,000.00	$12,450.00

(1) There are being registered hereunder such indeterminate number of shares of common stock and preferred stock and such indeterminate number of warrants and units as shall have an aggregate initial offering price not to exceed $100,000,000. Any securities registered hereunder may be sold separately or as units with other securities

registered hereunder. The securities registered also include such indeterminate number of shares of common stock and preferred stock as may be issued upon conversion of or exchange for preferred stock that provide for conversion or exchange, upon exercise of warrants or pursuant to the anti-dilution provisions of any such securities. In addition, pursuant to Rule 416 under the Securities Act, the shares being registered hereunder include such indeterminate number of shares of common stock and preferred stock as may be issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions.

(2) The proposed maximum aggregate offering price per class of security will be determined from time to time by the Registrant in connection with the issuance by the Registrant of the securities registered hereunder and is not specified as to each class of security pursuant to General Instruction II.D. of Form S-3 under the Securities Act.

(3) Calculated pursuant to Rule 457(o) under the Securities Act of 1933, as amended.

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(a) OF THE SECURITIES ACT OF 1933, AS AMENDED, OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION ACTING PURSUANT TO SAID SECTION 8(a), MAY DETERMINE.

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EXPLANATORY NOTE

This registration statement contains a base prospectus which covers the offering, issuance and sale by us of up to $100,000,000 in the aggregate of the securities identified above from time to time in one or more offerings.

The base prospectus immediately follows this explanatory note. The specific terms of any securities to be offered pursuant to the base prospectus will be specified in a prospectus supplement to the base prospectus.

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The information in this prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

PROSPECTUS (Subject to Completion) **Dated March 6, 2018**

$100,000,000

Common Stock

Preferred Stock

Warrants

Units

We may from time to time issue, in one or more series or classes, up to $100,000,000 in aggregate principal amount of our common stock, preferred stock, warrants and/or units in one or more offerings. We may offer these securities separately or together in units. We will specify in the accompanying prospectus supplement the terms of the securities being offered. We may sell these securities to or through underwriters and also to other purchasers or through agents. We will set forth the names of any underwriters or agents, and any fees, conversions or discount arrangements, in the accompanying prospectus supplement. We may not sell any securities under this prospectus without delivery of the applicable prospectus supplement.

You should read this document and any prospectus supplement or amendment carefully before you invest in our securities.

Our common stock is listed on The Nasdaq Capital Market under the symbol ANTH. On March 2, 2018, the closing price for our common stock, as reported on The Nasdaq Capital Market, was $2.34 per share. Our principal executive office is located at 25301 Industrial Boulevard, Suite B, Hayward, CA.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties referenced under the heading Risk Factors contained in this prospectus beginning on page 2 and any applicable prospectus supplement, and under similar headings in the other documents that are incorporated by reference into this prospectus.

This prospectus may not be used to offer or sell securities unless accompanied by a prospectus supplement.

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.

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The date of this Prospectus is , 2018.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the United States Securities and Exchange Commission (the **SEC**), using a shelf registration process. Under this shelf registration process, we may from time to time sell any combination of the securities described in this prospectus in one or more offerings up to a total amount of $100,000,000.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide one or more prospectus supplements that will contain specific information about the terms of the offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and the accompanying prospectus supplement together with the additional information described under the heading Where You Can Find More Information beginning on page 19 of this prospectus.

You should rely only on the information contained in or incorporated by reference in this prospectus, any accompanying prospectus supplement or in any related free writing prospectus filed by us with the SEC. We have not authorized anyone to provide you with different information. This prospectus and the accompanying prospectus supplement do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the securities described in the accompanying prospectus supplement or an offer to sell or the solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful. You should assume that the information appearing in this prospectus, any prospectus supplement, the documents incorporated by reference and any related free writing prospectus is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

In this prospectus, unless otherwise noted, the terms Anthera, the Company, we, us, and our refer to Anthera Pharmaceuticals, Inc., a Delaware corporation, and its subsidiaries.

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RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risks referenced below and described in the documents incorporated by reference in this prospectus and any prospectus supplement, as well as other information we include or incorporate by reference into this prospectus and any applicable prospectus supplement, before making an investment decision. Our business, financial condition or results of operations could be materially adversely affected by the materialization of any of these risks. The trading price of our securities could decline due to the materialization of any of these risks, and you may lose all or part of your investment. This prospectus and the documents incorporated herein by reference also contain forward-looking statements that involve risks and uncertainties. Actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks referenced below and described in the documents incorporated herein by reference, including (i) our annual report on Form 10-K for the fiscal year ended December 31, 2017, which is on file with the SEC and is incorporated herein by reference, and (ii) other documents we file with the SEC that are deemed incorporated by reference into this prospectus.

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CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the documents that we incorporate by reference, may contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the **Securities Act**), and Section 21E of the Securities Exchange Act of 1934, as amended (the **Exchange Act**).

Forward-looking statements in this prospectus and any accompanying prospectus supplement give our current expectations or forecasts of future events. You can identify these statements by the fact that they do not relate strictly to historical or current facts. You can find many (but not all) of these statements by looking for words such as approximates, believes, hopes, expects, anticipates, estimates, projects, intends, plans, would, sh other similar expressions in this prospectus and any prospectus supplement. In particular, forward-looking statements include statements relating to future actions, prospective products and applications, customers, technologies, future performance or future financial results. These forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from our historical experience and our present expectations or projections. Factors that could cause actual results to differ from those discussed in the forward-looking statements include, but are not limited to:

- 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;

our ability to attract and retain key personnel; and

other factors discussed elsewhere in this prospectus.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. The forward-looking statements are based upon management s beliefs and assumptions and are made as of the date of this prospectus. We undertake no obligation to publicly update or revise any forward-looking statements included in this prospectus to conform such statements to actual results or changes in our expectations. You should not place undue reliance on these forward-looking statements.

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THE COMPANY

Anthera Pharmaceuticals, Inc. is a biopharmaceutical company focused on advancing the development and commercialization of innovative medicines that benefit patients with unmet medical needs. We currently have two compounds in development, Sollpura and blisibimod. We licensed Sollpura from Eli Lilly & Co (Eli Lilly) in July 2014. Sollpura is a novel non-porcine investigational Pancreatic Enzyme Replacement Therapy (PERT) intended for the treatment of patients with Exocrine Pancreatic Insufficiency (EPI), often seen in patients with cystic fibrosis and other conditions. We licensed blisibimod from Amgen, Inc. (Amgen) in December 2007. Blisibimod targets B-cell activating factor, or BAFF, which has been shown to be elevated in a variety of B-cell mediated autoimmune diseases, including Immunoglobulin A nephropathy, or IgA nephropathy.

Our Product Candidates

Sollpura

Sollpura is a novel, non-porcine PERT that contains three biotechnology-derived digestive enzymes: a lipase, a protease and an amylase. Through enzyme cross-linking, the lipase enzyme in Sollpura is more stable than the porcine-derived lipase in the low pH environment of the stomach and therefore Sollpura does not have an enteric polymer coating. Furthermore, since the three enzymes in Sollpura are biotechnology-derived, Sollpura does not contain porcine proteins or purines that may be associated with a risk of viral transmission or allergic reaction to proteins of porcine origin. We believe Sollpura has the potential to become the first soluble, stable and non-porcine derived enzyme product and offer a novel solution to patients who are unable to maintain appropriate nutritional health. Sollpura s chemical characteristics, unlike currently available PERTs, make it ideal for powder formulation as either a capsule, or sachet of powder for oral solution which can be conveniently administered in solution in a small volume of water.

We are currently developing Sollpura in three clinical studies:

RESULT RESULT is a Phase 3 study in patients with exocrine pancreatic insufficiency (EPI) due to cystic fibrosis. It is a randomized, open-label, assessor-blind, non-inferiority, active-comparator study evaluating the non-inferiority of Sollpura with respect to Coefficient of Fat Absorption (CFA) compared to a commercially available PERT in a population of porcine-derived PERT responders. Patients are randomized on a ratio of 1:1 and treated over a duration of 4 weeks and then followed in a 20-week extension period for the collection of longer term safety and efficacy (e.g., growth, maintenance of body weight) data. The RESULT study has enrolled 140 patients in North America, Eastern and Western Europe and Israel. In December 2017 and January 2018, pre-specified interim futility analyses of the RESULT study were conducted by a Data Monitoring Committee (DMC) comprised of experts appointed by the Cystic Fibrosis Foundation Therapeutics Development Network when approximately 25% and 50% of patients had completed the 4-week treatment period; in each instance, the committee recommended the study to continue to completion as planned. We expect to report topline data from the RESULT study in March 2018.

SIMPLICITY SIMPLICITY is another Phase 3 study aimed at expanding the treatment age of patients to include patients age 28 days to seven years old, and enabling potential marketing approval for the sachet presentation of Sollpura powder for oral solution. The study is designed in two parts (Part A and Part B). Part A which evaluated the safety and general usability of Sollpura powder for oral solution in 15 patients ³7 years of age, was completed

in the fourth quarter of 2016. Before we proceed with Part B, we plan to amend the SIMPLICITY study to follow a similar dosing approach as in the RESULT study and initiate enrollment in Part B in the second quarter of 2018.

EASY EASY is a study that provides continued access to Sollpura for patients who previously enrolled and were in the Sollpura arm of a Phase 3 study that we conducted in 2016. The EASY study is also open to enrollment of Sollpura-assigned patients completing the RESULT study at a lipase dose greater than 10,000 units/kg/day to have continued access until the Biological License Application (BLA) for Sollpura is approved by the United States Food and Drug Administration (FDA).

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Blisibimod

Blisibimod, a peptibody directed against BAFF, or B-cell Activating Factor (also known as B lymphocyte stimulator or BLyS), was developed as an alternative to antibodies and is produced in *Escherichia coli* bacterial culture, as opposed to antibodies that are typically produced in mammalian cell culture. A peptibody is a novel fusion protein that is distinct from an antibody with several potential advantages, including ease of manufacture, potency and relatively small molecular weight. Blisibimod inhibits both soluble and membrane-bound BAFF.

We recently completed a Phase 2 study of blisibimod (BRIGHT-SC) in patients with IgA nephropathy in Asia and Eastern Europe. The BRIGHT-SC study was a Phase 2 multicenter, randomized, double-blind, placebo-controlled study to evaluate the efficacy, safety, tolerability and immunogenicity of blisibimod in IgA nephropathy. The BRIGHT-SC study enrolled 58 patients. In August 2017, we reported top line data from the completed extension of the BRIGHT-SC study in which all patients had the opportunity to complete at least 60 weeks of treatment and some patients were treated for up to two years. Throughout the treatment period and for up to one year of additional follow up off treatment, blisibimod appeared to halt disease progression as measured by the mean estimate of urinary protein:creatinine levels (proteinuria). Specifically, in patients treated with blisibimod, the mean change in proteinuria was stable to trending slightly downward, whereas the mean levels increased for patients in the placebo arm. Additionally, blisibimod showed a trend toward preservation of renal function based upon individual rates of change in estimated glomerular filtration rate (eGFR). Furthermore, serum immunoglobulins IgA, IgG, and IgM, demonstrated marked reduction throughout the treatment period.

Market Opportunity

Sollpura for the treatment of Exocrine Pancreatic Insufficiency (EPI)

According to our estimate, EPI is a disease that affects an estimated 130,000 patients in the United States. The most common causes of EPI are chronic pancreatitis and cystic fibrosis, the former a longstanding inflammation of the pancreas altering the organ s normal structure and function that can result from malnutrition, heredity, or (in the western world especially), behavior (alcohol use and smoking), and the latter a recessive hereditary disease most common in Europeans and Ashkenazi Jews where the molecular culprit is an altered, CFTR-encoded chloride channel. In children, another common cause is Shwachman-Bodian-Diamond syndrome, a rare autosomal recessive genetic disorder resulting from mutation in the SBDS gene.

Blisibimod for the treatment of IgA Nephropathy

According to the National Organization for Rare Diseases, primary IgA nephropathy occurs at any age, most commonly with clinical onset in the second and third decades of life and a large number of cases eventually progress to renal failure. There is also a striking geographic variation in the prevalence of IgA nephropathy throughout the world. In the United States, IgA nephropathy is considered an orphan disease as it is believed to affect approximately 130,000 people annually. In August 2017, the FDA granted orphan drug designation for blisibimod for the treatment of IgA. The prevalence of IgA nephropathy varies throughout the world, with the highest prevalence in Asia (Singapore, Japan and China), Australia, Finland and southern Europe (20 to 40% of all glomerulonephritis). In Asia, routine urinalyses are performed for school children and renal biopsies for patients with asymptomatic hematuria, and the reported prevalence of the disease is much higher. For example, in Japan, IgA nephropathy is estimated to affect over 350,000 people annually. According to the National Kidney and Urologic Diseases Information Clearinghouse, 25% of adults with IgA nephropathy eventually develop total kidney failure.

Our Manufacturing Strategy

Sollpura

We completed technology transfer for pharmaceutical ingredient (API) manufacturing and drug product manufacturing in 2016, and estimate that we will complete process validation for the fermentation and associated

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down-stream purification for all three enzyme APIs in 2019. In parallel, commercial scale capsule and sachet drug product manufacturing process validation is anticipated to be completed in 2019.

Our Regulatory Strategy

Sollpura

The RESULT study protocol has been reviewed by the FDA prior to initiation. We believe that the design of RESULT provides adequate evaluation of efficacy and safety of Sollpura to respond to the FDA s 2011 complete response letter. The RESULT study should also address the 2005 EMA protocol assistance comments, which were consistent with the FDA s request for an active comparator trial. We anticipate completing the Phase 3 clinical trials with Sollpura (the RESULT and SIMPLICITY studies) in 2018, and process validation for commercial manufacture of Sollpura APIs and drug product in 2019, with a target submission date of the Biologics Licence Application (BLA) in 2019.

IgA Nephropathy

In September 2013, we met with the FDA who agreed to consider accepting proteinuria as a surrogate endpoint under a Subpart E approval for blisibimod for treatment of IgA nephropathy. In April 2014, we met with the Japan Pharmaceuticals and Medical Devices Agency (PMDA) to discuss our registration program for blisibimod in IgA nephropathy. In this meeting we gained the PMDA s agreement on the acceptability of proteinuria as the primary efficacy endpoint to support marketing approval in Japan. In December 2014 we met with the European Medicines Agency (EMA) as part of the scientific advice process for blisibimod, and reached agreement on the acceptability of proteinuria as the primary efficacy variable, as well as the sufficiency of a single study to support a Conditional Marketing Authorization Application (CMAA) provided that confirmatory evidence from a second study would be available post approval. The EMA also recommended that the protocol provide information on the required duration of treatment, duration of response and need for re-treatment. Given the observed effects of blisibimod on proteinuria in patients with lupus, we are currently evaluating our options for investigating the effects of blisibimod in B-cell associated glomerulonephritides.

Our Development and Commercialization Strategy

Our objective is to develop and commercialize our product candidates to treat serious diseases associated with inflammation, including enzyme replacement therapies and renal disease. To achieve these objectives, we intend to initially focus on the following activities.

Advance Clinical Development of Sollpura. We are advancing the development of Sollpura in a Phase 3 registration program in patients with cystic fibrosis-related EPI. If our Phase 3 clinical study is successful, we intend to commercialize Sollpura in the U.S. and seek strategic corporate partners whose capabilities complement ours to launch Sollpura outside of U.S.

Seek Collaborative Corporate Partner for Blisibimod. We have received orphan drug designation for blisibimod for the treatment of IgA nephropathy. We plan to opportunistically enter into collaborations with third parties for the development of blisibimod in renal disease and other B-cell associated glomerulonephritides.

Developing Commercial Strategies Designed to Maximize Our Product Candidates Market Potential. Our product candidates are focused on highly-specialized physician segments, such as cystic fibrosis specialists and nephrologists. We believe that we can build a small, focused sales force capable of marketing our products effectively in acute care and orphan indications.

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Risks and Uncertainties Related to Our Business

The risks set forth under the section entitled Risk Factors beginning on page 2 of this prospectus reflect risks and uncertainties that could significantly and adversely affect our business and our ability to execute our business strategy. For example:

- We are a clinical-stage biotechnology company with two assets in the clinical stage of development. Investment in biopharmaceutical product development is highly speculative because it entails substantial upfront capital expenditures and significant risk that any potential product candidate will fail to demonstrate adequate effect or an acceptable safety profile, gain regulatory approval and become commercially viable. We have no products approved for commercial sale and have not generated any revenue from product sales to date and we continue to incur significant research and development and other expenses related to our ongoing operations.

- We are not profitable and have incurred losses in each period since our inception in 2004. As of December 31, 2017, we had an accumulated deficit of $434.4 million. Substantially all our losses resulted from costs incurred with our product development programs and from general and administrative costs associated with our operations.

- We will need substantial additional capital in the future to fund our operations. Our current cash balance will not be sufficient to fund our operation s for the next twelve months from the filing of our Form 10-K for the year ended December 31, 2017 on March 5, 2018, which resulted in substantial doubt about our ability to continue as going concern. Changing circumstances may cause us to consume capital significantly faster than we currently anticipate. If additional capital is not available, we will have to delay, reduce or cease operations.

- 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. In addition, if we obtain regulatory approval for our product candidates, we may incur significant sales, marketing, in-licensing and outsourced manufacturing expenses as well as continued product development expenses.

- We depend substantially on the success of our product candidates, both Sollpura and blisibimod are still under clinical development. 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 timing of the milestone and royalty payments we are required to make to our licensors is uncertain and could adversely affect our cash flows and results of operations.

Corporate 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, services marks and trade names of other businesses that are the property of their respective holders.

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USE OF PROCEEDS

We will retain broad discretion over the use of the net proceeds from the sale of our securities offered hereby. Except as described in any prospectus supplement, we currently anticipate using the net proceeds from the sale of our securities offered hereby primarily for clinical research and development and general corporate purposes which include, but are not limited to, general and administrative expenses, capital expenditures, working capital, prosecution and maintenance of our intellectual property and the potential investment in technologies or products that complement our business. We may also use a portion of the net proceeds to pay off outstanding indebtedness, if any, and/or acquire or invest in complementary businesses, products and technologies. Although we have no specific agreements, commitments or understandings with respect to any acquisition, we evaluate acquisition opportunities and engage in related discussions with other companies from time to time.

Pending the use of the net proceeds, we intend to invest the net proceeds in short-term, interest-bearing, investment-grade securities.

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SECURITIES WE MAY OFFER

This prospectus contains summary descriptions of the securities we may offer from time to time. These summary descriptions are not meant to be complete descriptions of each security. The particular terms of any security will be described in the applicable prospectus supplement.

DESCRIPTION OF CAPITAL STOCK

The following description of our common stock and preferred stock, together with the additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of the common stock and preferred stock that we may offer under this prospectus. The following description of our capital stock does not purport to be complete and is subject to, and qualified in its entirety by, our certificate of incorporation and bylaws, which are exhibits to the registration statement of which this prospectus forms a part, and by applicable law. The terms of our common stock and preferred stock may also be affected by Delaware law.

We may offer shares of our common stock and preferred stock and warrants to purchase any such securities with a total value of up to $100,000,000 from time to time under this prospectus at prices and on terms to be determined by market conditions at the time of offering. Each time we offer a type or series of securities, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities.

Description of Common Stock

We may issue shares of our common stock from time to time. Holders of our common stock are entitled to one vote per share for the election of directors and on all other matters that require stockholder approval. Subject to any preferential rights of any outstanding preferred stock, in the event of our liquidation, dissolution or winding up, holders of our common stock are entitled to share ratably in the assets remaining after payment of liabilities and the liquidation preferences of any outstanding preferred stock. Our common stock does not carry any redemption rights or any preemptive rights enabling a holder to subscribe for, or receive shares of, any class of our common stock or any other securities convertible into shares of any class of our common stock.

Description of Preferred Stock

We may issue shares of our preferred stock from time to time, in one or more series. Under our certificate of incorporation, our board of directors has the authority, without further action by stockholders, to designate up to 5,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges, qualifications and restrictions granted to or imposed upon the preferred stock, including dividend rights, conversion rights, voting rights, rights and terms of repurchase or redemption, liquidation preference and sinking fund terms, any or all of which may be greater than the rights of the common stock.

If we issue preferred stock, we will fix the rights, preferences, privileges, qualifications and restrictions of the preferred stock of each series that we sell under this prospectus and applicable prospectus supplements in the certificate of designations relating to that series. If we issue preferred stock, we will incorporate by reference into the registration statement of which this prospectus is a part the form of any certificate of designations that describes the terms of the series of preferred stock we are offering before the issuance of the related series of preferred stock. We urge you to read the prospectus supplement related to any series of preferred stock we may offer, as well as the complete certificate of designations that contains the terms of the applicable series of preferred stock.

Provisions of our Certificate of Incorporation and Bylaws and Delaware Anti-Takeover Law

Certain provisions of the Delaware General Corporation Law and of our certificate of incorporation and bylaws could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These

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provisions, which are summarized below, are expected to discourage certain types of coercive takeover practices and inadequate takeover bids and, as a consequence, they might also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions are also designed in part to encourage anyone seeking to acquire control of us to first negotiate with our board of directors. These provisions might also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders might otherwise deem to be in their best interests. However, we believe that the advantages gained by protecting our ability to negotiate with any unsolicited and potentially unfriendly acquirer outweigh the disadvantages of discouraging such proposals, including those priced above the then-current market value of our common stock, because, among other reasons, the negotiation of such proposals could improve their terms.

Provisions of our Certificate of Incorporation and Bylaws

Our certificate of incorporation and bylaws include a number of provisions that may have the effect of delaying, deferring or discouraging another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

Board Composition and Filling Vacancies

Our certificate of incorporation provides for the division of our board of directors into three classes serving staggered three-year terms, with one class being elected each year. Our certificate of incorporation also provides that directors may be removed only for cause and then only by the affirmative vote of the holders of 75% or more of the shares then entitled to vote at an election of directors. Furthermore, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum.

No Written Consent of Stockholders

Our certificate of incorporation provides that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action by written consent in lieu of a meeting.

Meetings of Stockholders

Our certificate of incorporation and bylaws provide that only a majority of the members of our board of directors then in office may call special meetings of stockholders and only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders. Our bylaws limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

Advance Notice Requirements

Our bylaws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary date of the annual meeting for the preceding year. Our bylaws specify the requirements as to form and content of all stockholders notices.

Amendment to Certificate of Incorporation and Bylaws

Any amendment of our certificate of incorporation must be approved by a majority of the outstanding shares entitled to vote on the amendment and a majority of the outstanding shares of each class entitled to vote thereon as

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a class, except that the amendment of the provisions relating to stockholder action, board composition, limitation of liability and the amendment of our certificate of incorporation must be approved by not less than 75% of the outstanding shares entitled to vote on the amendment, and not less than 75% of the outstanding shares of each class entitled to vote thereon as a class. Our bylaws may be amended by the affirmative vote of a majority of the directors then in office, subject to any limitations set forth in the bylaws; and may also be amended by the affirmative vote of at least 75% of the outstanding shares entitled to vote on the amendment, or, if our board of directors recommends that the stockholders approve the amendment, by the affirmative vote of the majority of the outstanding shares entitled to vote on the amendment, in each case voting together as a single class.

Delaware Anti-Takeover Law

We are subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly-held Delaware corporation from engaging in a business combination with an interested stockholder for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. A business combination includes, among other things, a merger, asset or stock sale or other transaction resulting in a financial benefit to the interested stockholder. In general, Section 203 defines an interested stockholder as any person or entity who, together with affiliates and associates, owns, or did own within three years prior to the determination of interested stockholder status, 15% or more of the corporation s voting stock. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, the board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances; or
- at or after the time the stockholder became interested, the business combination was approved by the board of directors of the corporation and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Exclusive Jurisdiction of Certain Actions

Our bylaws provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation s stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law or the Certificate or Bylaws, or (iv) any action asserting a claim against the Corporation governed by the internal affairs doctrine.

NASDAQ Capital Market Listing

Our common stock is listed on The NASDAQ Capital Market under the ANTH symbol.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC. The transfer agent and registrar s address is 6201 15th Avenue, Brooklyn, New York 11219.

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DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplements, summarizes the material terms and provisions of the warrants that we may offer under this prospectus and the related warrant agreements and warrant certificates. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. If we indicate in the prospectus supplement, the terms of any warrants offered under that prospectus supplement may differ from the terms described below. Specific warrant agreements will contain additional important terms and provisions and will be incorporated by reference as an exhibit to the registration statement, which includes this prospectus.

General

We may issue warrants for the purchase of common stock, preferred stock, or units in one or more series. We may issue warrants independently or together with common stock, preferred stock or units, and the warrants may be attached to or separate from these securities.

We will evidence each series of warrants by warrant certificates that we will issue under a separate warrant agreement. We will enter into the warrant agreement with a warrant agent. We will indicate the name and address of the warrant agent in the applicable prospectus supplement relating to a particular series of warrants.

We will describe in the applicable prospectus supplement the terms of the series of warrants, including:

- the offering price and aggregate number of warrants offered;
- the currency for which the warrants may be purchased;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;

the terms of any rights to redeem or call the warrants;

any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;

the periods during which, and places at which, the warrants are exercisable;

the manner of exercise;

the dates on which the right to exercise the warrants will commence and expire;

the manner in which the warrant agreement and warrants may be modified;

federal income tax consequences of holding or exercising the warrants;

the terms of the securities issuable upon exercise of the warrants; and

any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

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DESCRIPTION OF UNITS

We may issue units comprised of shares of common stock, shares of preferred stock and warrants in any combination. We may issue units in such amounts and in as many distinct series as we wish. This section outlines certain provisions of the units that we may issue. If we issue units, they will be issued under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. The information described in this section may not be complete in all respects and is qualified entirely by reference to the unit agreement with respect to the units of any particular series. The specific terms of any series of units offered will be described in the applicable prospectus supplement. If so described in a particular supplement, the specific terms of any series of units may differ from the general description of terms presented below. We urge you to read any prospectus supplement related to any series of units we may offer, as well as the complete unit agreement and unit certificate that contain the terms of the units. If we issue units, forms of unit agreements and unit certificates relating to such units will be incorporated by reference as exhibits to the registration statement, which includes this prospectus.

Each unit that we may issue will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date. The applicable prospectus supplement may describe:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions of the governing unit agreement;
- the price or prices at which such units will be issued;
- the applicable United States federal income tax considerations relating to the units;
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- any other terms of the units and of the securities comprising the units.

The provisions described in this section, as well as those described under Description of Capital Stock, and Description of Warrants will apply to the securities included in each unit, to the extent relevant and as may be updated in any prospectus supplements.

Issuance in Series

We may issue units in such amounts and in as many distinct series as we wish. This section summarizes terms of the units that apply generally to all series. Most of the financial and other specific terms of a particular series of units will

be described in the applicable prospectus supplement.

Unit Agreements

We will issue the units under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. We may add, replace or terminate unit agents from time to time. We will identify the unit agreement under which each series of units will be issued and the unit agent under that agreement in the applicable prospectus supplement.

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The following provisions will generally apply to all unit agreements unless otherwise stated in the applicable prospectus supplement:

Modification without Consent

We and the applicable unit agent may amend any unit or unit agreement without the consent of any holder:

- to cure any ambiguity; any provisions of the governing unit agreement that differ from those described below;
- to correct or supplement any defective or inconsistent provision; or
- to make any other change that we believe is necessary or desirable and will not adversely affect the interests of the affected holders in any material respect.

We do not need any approval to make changes that affect only units to be issued after the changes take effect. We may also make changes that do not adversely affect a particular unit in any material respect, even if they adversely affect other units in a material respect. In those cases, we do not need to obtain the approval of the holder of the unaffected unit; we need only obtain any required approvals from the holders of the affected units.

Modification with Consent

We may not amend any particular unit or a unit agreement with respect to any particular unit unless we obtain the consent of the holder of that unit, if the amendment would:

- impair any right of the holder to exercise or enforce any right under a security included in the unit if the terms of that security require the consent of the holder to any changes that would impair the exercise or enforcement of that right; or
- reduce the percentage of outstanding units or any series or class the consent of whose holders is required to amend that series or class, or the applicable unit agreement with respect to that series or class, as described below.

Any other change to a particular unit agreement and the units issued under that agreement would require the following approval:

- If the change affects only the units of a particular series issued under that agreement, the change must be approved by the holders of a majority of the outstanding units of that series; or

If the change affects the units of more than one series issued under that agreement, it must be approved by the holders of a majority of all outstanding units of all series affected by the change, with the units of all the affected series voting together as one class for this purpose.

These provisions regarding changes with majority approval also apply to changes affecting any securities issued under a unit agreement, as the governing document.

In each case, the required approval must be given by written consent.

Unit Agreements Will Not Be Qualified under Trust Indenture Act

No unit agreement will be qualified as an indenture, and no unit agent will be required to qualify as a trustee, under the Trust Indenture Act. Therefore, holders of units issued under unit agreements will not have the protections of the Trust Indenture Act with respect to their units.

Mergers and Similar Transactions Permitted; No Restrictive Covenants or Events of Default

The unit agreements will not restrict our ability to merge or consolidate with, or sell our assets to, another corporation or other entity or to engage in any other transactions. If at any time we merge or consolidate with, or

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sell our assets substantially as an entirety to, another corporation or other entity, the successor entity will succeed to and assume our obligations under the unit agreements. We will then be relieved of any further obligation under these agreements.

The unit agreements will not include any restrictions on our ability to put liens on our assets, nor will they restrict our ability to sell our assets. The unit agreements also will not provide for any events of default or remedies upon the occurrence of any events of default.

Governing Law

The unit agreements and the units will be governed by Delaware law.

Form, Exchange and Transfer

We will issue each unit in global i.e., book-entry form only. Units in book-entry form will be represented by a global security registered in the name of a depositary, which will be the holder of all the units represented by the global security. Those who own beneficial interests in a unit will do so through participants in the depositary s system, and the rights of these indirect owners will be governed solely by the applicable procedures of the depositary and its participants. We will describe book-entry securities, and other terms regarding the issuance and registration of the units in the applicable prospectus supplement.

Each unit and all securities comprising the unit will be issued in the same form.

If we issue any units in registered, non-global form, the following will apply to them.

The units will be issued in the denominations stated in the applicable prospectus supplement. Holders may exchange their units for units of smaller denominations or combined into fewer units of larger denominations, as long as the total amount is not changed.

Holders may exchange or transfer their units at the office of the unit agent. Holders may also replace lost, stolen, destroyed or mutilated units at that office. We may appoint another entity to perform these functions or perform them ourselves.

Holders will not be required to pay a service charge to transfer or exchange their units, but they may be required to pay for any tax or other governmental charge associated with the transfer or exchange. The transfer or exchange, and any replacement, will be made only if our transfer agent is satisfied with the holder s proof of legal ownership. The transfer agent may also require an indemnity before replacing any units.

If we have the right to redeem, accelerate or settle any units before their maturity, and we exercise our right as to less than all those units or other securities, we may block the exchange or transfer of those units during the period beginning 15 days before the day we mail the notice of exercise and ending on the day of that mailing, in order to freeze the list of holders to prepare the mailing. We may also refuse to register transfers of or exchange any unit selected for early settlement, except that we will continue to permit transfers and

exchanges of the unsettled portion of any unit being partially settled. We may also block the transfer or exchange of any unit in this manner if the unit includes securities that are or may be selected for early settlement.

Only the depositary will be entitled to transfer or exchange a unit in global form, since it will be the sole holder of the unit.

Payments and Notices

In making payments and giving notices with respect to our units, we will follow the procedures as described in the applicable prospectus supplement.

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PLAN OF DISTRIBUTION

We may sell securities:

through underwriters;

through dealers;

through agents;

directly to purchasers;

in an at the market offering , within the meaning of Rule 415(a)(4) of the Securities Act, ; or

through a combination of any of these methods or any other method permitted by law.

In addition, we may issue the securities as a dividend or distribution or in a subscription rights offering to our existing security holders.

We may directly solicit offers to purchase securities, or agents may be designated to solicit such offers. In the prospectus supplement relating to such offering, we will name any agent that could be viewed as an underwriter under the Securities Act and describe any commissions that we must pay to any such agent. Any such agent will be acting on a best efforts basis for the period of its appointment or, if indicated in the applicable prospectus supplement, on a firm commitment basis. This prospectus may be used in connection with any offering of our securities through any of these methods or other methods described in the applicable prospectus supplement.

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

at a fixed price, or prices, which may be changed from time to time;

at market prices prevailing at the time of sale;

at prices related to such prevailing market prices; or

at negotiated prices.

Each prospectus supplement will describe the method of distribution of the securities and any applicable restrictions.

The prospectus supplement with respect to the securities of a particular series will describe the terms of the offering of the securities, including the following:

- the name of the agent or any underwriters;
- the public offering or purchase price;
- any discounts and commissions to be allowed or paid to the agent or underwriters;
- all other items constituting underwriting compensation;
- any discounts and commissions to be allowed or paid to dealers; and
- any exchanges on which the securities will be listed.

If any underwriters or agents are used in the sale of the securities in respect of which this prospectus is delivered, we will enter into an underwriting agreement, sales agreement or other agreement with them at the time of sale to them, and we will set forth in the prospectus supplement relating to such offering the names of the underwriters or agents and the terms of the related agreement with them.

In connection with the offering of securities, we may grant to the underwriters an option to purchase additional securities with an additional underwriting commission, as may be set forth in the accompanying prospectus supplement. If we grant any such option, the terms of such option will be set forth in the prospectus supplement for such securities.

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If a dealer is used in the sale of the securities in respect of which the prospectus is delivered, we will sell such securities to the dealer, as principal. The dealer, who may be deemed to be an underwriter as that term is defined in the Securities Act, may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale.

If we offer securities in a subscription rights offering to our existing security holders, we may enter into a standby underwriting agreement with dealers, acting as standby underwriters. We may pay the standby underwriters a commitment fee for the securities they commit to purchase on a standby basis. If we do not enter into a standby underwriting arrangement, we may retain a dealer-manager to manage a subscription rights offering for us.

Agents, underwriters, dealers and other persons may be entitled under agreements which they may enter into with us to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, and may be customers of, engage in transactions with or perform services for us in the ordinary course of business.

If so indicated in the applicable prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by certain institutions to purchase securities from us pursuant to delayed delivery contracts providing for payment and delivery on the date stated in the prospectus supplement. Each contract will be for an amount not less than, and the aggregate amount of securities sold pursuant to such contracts shall not be less nor more than, the respective amounts stated in the prospectus supplement. Institutions with whom the contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutions, but shall in all cases be subject to our approval. Delayed delivery contracts will not be subject to any conditions except that:

- the purchase by an institution of the securities covered under that contract shall not at the time of delivery be prohibited under the laws of the jurisdiction to which that institution is subject; and

- if the securities are also being sold to underwriters acting as principals for their own account, the underwriters shall have purchased such securities not sold for delayed delivery. The underwriters and other persons acting as our agents will not have any responsibility in respect of the validity or performance of delayed delivery contracts.

Offered securities may also be offered and sold, if so indicated in the prospectus supplement, in connection with a remarketing upon their purchase, in accordance with a redemption or repayment pursuant to their terms, or otherwise, by one or more remarketing firms, acting as principals for their own accounts or as agents for us. Any remarketing firm will be identified and the terms of its agreement, if any, with us and its compensation will be described in the applicable prospectus supplement. Remarketing firms may be deemed to be underwriters in connection with their remarketing of offered securities.

Certain agents, underwriters and dealers, and their associates and affiliates, may be customers of, have borrowing relationships with, engage in other transactions with, or perform services, including investment banking services, for us or one or more of our respective affiliates in the ordinary course of business.

In order to facilitate the offering of the securities, any underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the securities or any other securities the prices of which may be used to determine payments on such securities. Specifically, any underwriters may overallot in connection with the offering, creating a short position for their own accounts. In addition, to cover overallotments or to stabilize the price of the securities or

of any such other securities, the underwriters may bid for, and purchase, the securities or any such other securities in the open market. Finally, in any offering of the securities through a syndicate of underwriters, the underwriting syndicate may reclaim selling concessions allowed to an underwriter or a dealer for distributing the securities in the offering if the syndicate repurchases previously distributed securities in transactions to cover syndicate short positions, in stabilization transactions or otherwise. Any of these activities may stabilize or maintain the market price of the securities above independent market levels. Any such underwriters are not required to engage in these activities and may end any of these activities at any time.

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We may engage in at the market offerings into an existing trading market in accordance with Rule 415(a)(4) under the Securities Act. In addition, we may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement so indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be named in the applicable prospectus supplement (or a post-effective amendment). In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus and an applicable prospectus supplement. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

Under Rule 15c6-1 of the Exchange Act, trades in the secondary market generally are required to settle in three business days, unless the parties to any such trade expressly agree otherwise. The applicable prospectus supplement may provide that the original issue date for your securities may be more than three scheduled business days after the trade date for your securities. Accordingly, in such a case, if you wish to trade securities on any date prior to the third business day before the original issue date for your securities, you will be required, by virtue of the fact that your securities initially are expected to settle in more than three scheduled business days after the trade date for your securities, to make alternative settlement arrangements to prevent a failed settlement.

The securities may be new issues of securities and may have no established trading market. The securities may or may not be listed on a national securities exchange. We can make no assurance as to the liquidity of or the existence of trading markets for any of the securities.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

The anticipated date of delivery of offered securities will be set forth in the applicable prospectus supplement relating to each offer.

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LEGAL MATTERS

Certain legal matters in connection with this offering will be passed upon for us by Goodwin Procter LLP, San Francisco, California. Any underwriters will also be advised about the validity of the securities and other legal matters by their own counsel, which will be named in the prospectus supplement.

EXPERTS

The financial statements as of December 31, 2017 and 2016 and for each of the three years in the period ended December 31, 2017 incorporated by reference in this Prospectus have been so incorporated in reliance on the report of BDO USA, LLP, an independent registered public accounting firm (the report on the financial statements contains an explanatory paragraph regarding the Company s ability to continue as a going concern), incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement that we have filed with the SEC. Certain information in the registration statement has been omitted from this prospectus in accordance with the rules of the SEC. We are subject to the information requirements of the Exchange Act and, in accordance therewith, file annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy any document we file at the SEC s Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. You may call the SEC at 1-800-SEC-0330 for further information on the operation of the Public Reference Room. These documents also may be accessed through the SEC s electronic data gathering, analysis and retrieval system, or EDGAR, via electronic means, including the SEC s home page on the Internet *(www.sec.gov*).

We have the authority to designate and issue more than one class or series of stock having various preferences, conversion and other rights, voting powers, restrictions, limitations as to dividends, qualifications, and terms and conditions of redemption. See Description of Capital Stock. We will furnish a full statement of the relative rights and preferences of each class or series of our stock which has been so designated and any restrictions on the ownership or transfer of our stock to any stockholder upon request and without charge. Written requests for such copies should be directed to Corporate Secretary, Anthera Pharmaceuticals, Inc., 25801 Industrial Boulevard, Suite B, Hayward, California 94545; telephone: (510) 856-5600. Our website is located at *www.anthera.com*. Information contained on our website is not incorporated by reference into this prospectus and, therefore, is not part of this prospectus or any accompanying prospectus supplement.

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INCORPORATION BY REFERENCE

The SEC allows us to incorporate by reference the information and reports we file with it, which means that we can disclose important information to you by referring you to these documents. The information incorporated by reference is an important part of this prospectus, and information that we file later with the SEC will automatically update and supersede the information already incorporated by reference. We are incorporating by reference the documents listed below, which we have already filed with the SEC, and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, including all filings made after the date of the filing of this registration statement and prior to the effectiveness of this registration statement, except as to any portion of any future report or document that is not deemed filed under such provisions, after the date of this prospectus and prior to the termination of this offering:

- Annual Report on Form 10-K for the year ended December 31, 2017, filed with the SEC on March 5, 2018;
- The Registrant s definitive proxy statement on Schedule 14A, which was filed with the SEC on March 16, 2017;
- The Registrant s Current Reports on Form 8-K as filed with the SEC on January 9, 2018, and January 25, 2018 (other than any reports or portions thereof that are furnished under Item 2.02 or Item 7.01 and any exhibits included with such Items); and
- The description of the common stock contained in the Registrant s registration statement on Form 8-A filed with the SEC on February 22, 2010, including any amendment or report filed for the purpose of updating such description.

Upon request, we will provide, without charge, to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, a copy of the documents incorporated by reference into this prospectus but not delivered with the prospectus. You may request a copy of these filings, and any exhibits we have specifically incorporated by reference as an exhibit in this prospectus, at no cost by writing or telephoning us at the following address:

25801 Industrial Boulevard, Suite B,

Hayward, California 94545

Telephone: (510) 856-5600

You may also access these documents, free of charge on the SEC s website at www.sec.gov or on our website at www.anthera.com. Information contained on our website is not incorporated by reference into this prospectus, and you should not consider any information on, or that can be accessed from, our website as part of this prospectus or any accompanying prospectus supplement.

This prospectus is part of a registration statement we filed with the SEC. We have incorporated exhibits into this registration statement. You should read the exhibits carefully for provisions that may be important to you.

You should rely only on the information incorporated by reference or provided in this prospectus or any prospectus supplement. We have not authorized anyone to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus or in the documents incorporated by reference is accurate as of any date other than the date on the front of this prospectus or those documents.

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Common Stock

Preferred Stock

Warrants

Units

PROSPECTUS

, 2018

We have not authorized any dealer, salesperson or other person to give any information or represent anything not contained in this prospectus. You must not rely on any unauthorized information. If anyone provides you with different or inconsistent information, you should not rely on it. This prospectus does not offer to sell any securities in any jurisdiction where it is unlawful. Neither the delivery of this prospectus, nor any sale made hereunder, shall create any implication that the information in this prospectus is correct after the date hereof.

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Part II INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The expenses payable by Anthera Pharmaceuticals, Inc. (the Registrant or the Company) in connection with the issuance and distribution of the securities being registered (other than underwriting discounts and commissions, if any) are set forth below. Each item listed is estimated, except for the Securities and Exchange Commission (the SEC) registration.

Securities and Exchange Commission registration fee(1)	$ 12,450.00
FINRA filing fee	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and trustee fees	*
Miscellaneous	*
Total	**$ 12,450.00**

(1) Represents registration fee applicable to amount included in prospectus for $100,000,00 in shares of common stock. Additional registration fees deferred in reliance upon Rules 456(b) and 457(r) under the Securities Act.

* Estimated expenses not presently known

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.

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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 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.

The registrant also maintains general liability insurance which covers certain liabilities of its 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.

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Item 16. Exhibits

Exhibit		Incorporated by Reference			Filed
Number	Exhibit Description	Form	Date	Number	Herewith
1.1*	Form of Underwriting Agreement				
3.1	Fifth Amended and Restated Certificate of Incorporation of the Registrant	S-1/A	2/03/2010	3.6	
3.2	Certificate of Amendment to the Fifth Amended and Restated Certificate of Incorporation filed October 12, 2012	10-K	3/26/2013	3.2	
3.3	Certificate of Amendment to the Fifth Amended and Restated Certificate of Incorporation filed July 12, 2013 and effective July 15, 2013	8-K	7/16/2013	3.1	
3.4	Certificate of Amendment to the Fifth Amended and Restated Certificate of Incorporation filed April 28, 2017	8-K	4/28/2017	3.1	
3.5	Amended and Restated Certificate of Designation of Preferences, Rights and Limitations of Series X Convertible Preferred Stock filed on September 15, 2016	8-K	9/15/2016	3.1	
3.6	Form of Certificate of Designation of Preferences, Rights and Limitations of Series X-1 Convertible Preferred Stock filed on September 12, 2016	8-K	9/12/2016	3.2	
3.7	Certificate of Designation of Preferences, Rights and Limitations of Class Y Convertible Preferred Stock, dated October 24, 2017	8-K	10/25/2017	3.1	
3.8	Amended and Restated Bylaws, as amended, of the Registrant	10-Q	8/10/2015	3.4	
4.1	Specimen Common Stock Certificate	S-1	01/29/2010	4.1	
4.2	Specimen Series X Convertible Preferred Stock certificate	8-K	9/12/2016	4.2	
4.3	Specimen Class Y Convertible Preferred Stock certificate	8-K	10/25/2017	3.1	
4.4	Form of Warrant sold pursuant to that Securities Purchase Agreement, among the Company and the purchasers thereto, dated September 20, 2010	8-K	9/22/2010	4.1	
4.5	Form of Warrant Agreement dated as of March 25, 2011	8-K	3/29/2011	10.2	
4.6		8-K	10/23/2017	10.3	

	Form of Warrant sold pursuant to that Subscription Agreement, among the Company and the purchasers thereto, dated September 6, 2016			
4.7	Form of Warrant sold pursuant to that Securities Purchase Agreement, among the Company and the purchasers thereto, dated October 21, 2017	8-K	9/6/2016	4.1
4.8*	Form of Certificate of Designations			
4.9*	Form of Warrant Agreements			
4.10*	Form of Unit Certificate			

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Exhibit Number	Exhibit Description	Incorporated by Reference Form	Date	Number	Filed Herewith
4.11*	Form of Unit Agreement				
4.12*	Form of Preferred Stock Certificate				
5.1	Opinion of Goodwin Procter LLP				X
23.1	Consent of BDO USA LLP, Independent Registered Public Accounting Firm				X
23.2	Consent of Goodwin Procter LLP (included in Exhibit 5.1 hereto)				X
24.1	Power of Attorney (included on the signature pages to this registration statement)				X

* To be filed, if necessary, by amendment or as an exhibit to a document to be incorporated or deemed to be incorporated by reference in this registration statement, including a Current Report on Form 8-K.

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Item 17. Undertakings

The undersigned registrant hereby undertakes:

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

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

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

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement; provided, however, that paragraphs (a)(1)(i), (a)(l)(ii) and (a)(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 Securities and Exchange 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;

provided, *however*, that paragraphs (1)(i), (1)(ii) and (1)(iii) 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 Securities and Exchange Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the Exchange Act), that are incorporated by reference in this registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of this 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:

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

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(l)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the

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prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof; provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date;

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser;

(6) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant s annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan s annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof;

(7) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue; and

(8) To file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act of 1939 in accordance with the rules and regulations prescribed by the

Securities and Exchange Commission under Section 305(b)(2) of the Trust Indenture Act of 1939.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in City of Hayward, State of California, on March 6, 2018.

Anthera Pharmaceuticals, Inc.

By: /s/ J. Craig Thompson
J. Craig Thompson
Chief Executive Officer

Each person whose signature appears below constitutes and appoints J. Craig Thompson and May Liu as his or her true and lawful attorneys-in-fact and agents, each acting alone, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any or all amendments to this registration statement, and all pre-effective and post-effective amendments thereto, and to file the same, with all exhibits thereto, and all documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, each acting alone, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ J. Craig Thompson J. Craig Thompson	Chief Executive Officer and Director (Principal Executive Officer)	March 6, 2018
/s/ May Liu May Liu	Senior Vice President, Finance and Administration (Principal Accounting Officer)	March 6, 2018
/s/ Paul F. Truex Paul F. Truex	Chairman of the Board of Directors	March 6, 2018
/s/ Christopher S. Henney Christopher S. Henney, Ph.D.	Director	March 6, 2018
/s/ Brian R. Mueller	Director	March 6, 2018

Brian R. Mueller		
/s/ David E. Thompson	Director	March 6, 2018
David E. Thompson		
/s/ Brent V. Furse	Director	March 6, 2018
Brent V. Furse		
/s/ Philip T. Sager	Director	March 6, 2018
Philip T. Sager, M.D.		