

Anthera Pharmaceuticals Inc  
Form 424B5  
April 22, 2016

Filed Pursuant to Rule 424(b)(5)  
Registration No. 333-210166

PROSPECTUS SUPPLEMENT  
(To Prospectus dated April 18, 2016)

\$25,000,000

Common Stock

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We have entered into a sales agreement with H.C. Wainwright & Co., LLC, or H.C. Wainwright, relating to shares of our common stock, par value \$0.001 per share, offered by this prospectus supplement and the accompanying prospectus. Under the sales agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to \$25,000,000 from time to time through H.C. Wainwright as our sales agent.

Our common stock is quoted on The NASDAQ Global Market under the symbol "ANTH." On April 14, 2016, the last reported sale price of our common stock on The NASDAQ Global Market was \$3.83 per share.

Sales of our common stock, if any, under this prospectus supplement and the accompanying prospectus may be made in sales deemed to be "at the market" equity offerings as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, including sales made directly on or through The NASDAQ Global Market, the existing trading market for our common stock, sales made to or through a market maker other than on an exchange or otherwise, in negotiated transactions at market prices prevailing at the time of sale or at prices related to such prevailing market prices, and/or in any other method permitted by law. H.C. Wainwright will act as sales agent on a commercially reasonable efforts basis consistent with its normal trading and sales practices. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

H.C. Wainwright will be entitled to compensation at a fixed commission rate equal to 3.0% of the gross proceeds per share sold. In connection with the sale of the common stock on our behalf, H.C. Wainwright may be deemed to be an "underwriter" within the meaning of the Securities Act of 1933, as amended, and the compensation of H.C. Wainwright may be deemed to be underwriting commissions or discounts.

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Investing in our common stock involves a high degree of risk. Please read "Risk Factors" beginning on page S-10 of this prospectus supplement and in the documents incorporated by reference into this 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 supplement or the accompanying prospectus are truthful or complete. Any representation to the contrary is a criminal offense.

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H.C. Wainwright & Co.

Prospectus Supplement dated April 21, 2016.



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You should rely only on the information contained in or incorporated by reference in this prospectus supplement, the accompanying prospectus and in any free writing prospectus that we have authorized for use in connection with this offering. We have not, and the sales agent has not, authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the sales agent is not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, and in any free writing prospectus that we have authorized for use in connection with this offering, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, and any free writing prospectus that we have authorized for use in connection with this offering, in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the section of this prospectus supplement entitled “Incorporation of Certain Information by Reference” and the sections of the accompanying prospectus entitled “Incorporation of Certain Information by Reference” and “Where You Can Find More Information.”



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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus form part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or SEC, using a “shelf” registration process. This document contains two parts. The first part consists of this prospectus supplement, which provides you with specific information about this offering. The second part, the accompanying prospectus provides more general information, some of which may not apply to this offering. Generally, when we refer only to the “prospectus,” we are referring to both parts combined. This prospectus supplement may add, update or change information contained in the accompanying prospectus. To the extent that any statement we make in this prospectus supplement is inconsistent with statements made in the accompanying prospectus or any documents incorporated by reference herein or therein, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying prospectus and such documents incorporated by reference herein and therein.

Unless the context otherwise requires, we use the terms “Anthera Pharmaceuticals,” “Anthera,” “we,” “us,” “the Company” and “our” in this prospectus supplement to refer to Anthera Pharmaceuticals, Inc. and its subsidiaries.

All references in this prospectus supplement to our consolidated financial statements include, unless the context indicates otherwise, the related notes.

The industry and market data and other statistical information contained in the documents we incorporate by reference are based on management’s own estimates, independent publications, government publications, reports by market research firms or other published independent sources, and, in each case, are believed by management to be reasonable estimates. Although we believe these sources are reliable, we have not independently verified the information.

The information contained in this prospectus supplement or the accompanying prospectus is accurate only as of the date of this prospectus supplement or the accompanying prospectus, regardless of the time of delivery of this prospectus supplement, the accompanying prospectus or of any sale of the shares. We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in this prospectus supplement or the accompanying prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

CAUTIONARY STATEMENT ABOUT FORWARD-LOOKING INFORMATION

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

materially from those projected in the forward-looking statements. Forward-looking statements contained in this prospectus supplement include, but are not limited to, statements about:

- our expectations related to the use of proceeds, if any, from this offering;

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- 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 supplement.

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

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PROSPECTUS SUPPLEMENT SUMMARY

The following summary of our business highlights some of the information contained elsewhere in or incorporated by reference into this prospectus supplement. Because this is only a summary, however, it does not contain all of the information that may be important to you. You should carefully read this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference, which are described under “Incorporation of Certain Information by Reference” in this prospectus supplement and under “Incorporation of Certain Information by Reference” and “Where You Can Find More Information” in the accompanying prospectus. You should also carefully consider the matters discussed in the section entitled “Risk Factors” in this prospectus supplement, in the accompanying prospectus and in other periodic reports incorporated herein by reference.

Our Company

We are a biopharmaceutical company focused on advancing the development and commercialization of innovative medicines that benefit patients with unmet medical needs. We currently have two Phase 3 product candidates, liprotamase also known as Sollpura™ and blisibimod. We licensed liprotamase 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 systemic lupus erythematosus (“SLE”), or lupus, Immunoglobulin A nephropathy, or IgA nephropathy, lupus nephritis, and others.

Summary of Product Development Programs

Our Pancreatic Enzyme Replacement Therapy Portfolio

Liprotamase 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 liprotamase is more stable than the porcine derived lipase in the low pH environment of the stomach and therefore liprotamase does not have an enteric polymer coating. Furthermore, since the three enzymes in liprotamase are biotechnology-derived, liprotamase 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. The individual enzyme components of liprotamase are formulated at a fixed ratio of lipase, protease, and amylase. The liprotamase enzyme dose ratio was selected from preclinical efficacy studies conducted using a canine model of pancreatic insufficiency which demonstrated that the lipase enzyme in liprotamase was efficacious when administered at >500 units/kg per meal, and the protease doses >1000 units/kg per meal (Borowitz et al. 2006). This finding is further supported by the similar efficacy observed between liprotamase and Creon in pigs with surgically-induced pancreatic insufficiency.

Pancreatic enzyme replacement therapy is currently the mainstay of treatment for nutrient malabsorption in patients with digestive enzyme deficiencies known as EPI. EPI occurs when diseases such as cystic fibrosis, or CF, and chronic pancreatitis impede or destroy the exocrine function of the pancreas. Orally delivered porcine PERTs have been available for many years for the treatment of EPI. Unmet medical needs for the treatment of EPI remain. For example, as the porcine-derived proteins contained in the PERTs pass through the low pH environment of the stomach, enzyme activity rapidly diminishes and, as a consequence, large doses of porcine enzymes are often required. Since porcine lipase can become irreversibly deactivated in an acid environment, most products are enterically-coated. Patient-to-patient differences in the acidity of the intestine makes dissolution of enterically-coated products variable, and gives rise to alterations in the rate and extent to which enzymes are released from these products. Poor stability and variability in terms of potency and pharmaceutical properties have also been identified as



important factors contributing to a poor response of some patients to PERTs.

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Liprotamase is a novel PERT intended for the treatment of EPI. The exocrine pancreas is responsible for synthesis and secretion of digestive enzymes, including lipase, protease, and amylase. EPI occurs when diseases such as CF and chronic pancreatitis impede or destroy the exocrine function of the pancreas. A reduction in, or absence of the normally secreted pancreatic digestive enzymes, causes lipids, proteins, and carbohydrates to enter the distal gastrointestinal (“GI”) tract in unabsorbable forms, leading to GI pain and distention, maldigestion, and steatorrhea. Without appropriate therapy, patients with EPI may experience malnutrition, poor growth or weight loss, reduced quality of life, and, in severe cases, increased morbidity and early death.

We believe liprotamase is potentially the first soluble, stable and non-porcine derived enzyme product to offer a novel solution to patients who are unable to maintain appropriate nutritional health. Liprotamase’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.

### Our Phase 3 Development of Liprotamase in EPI

We initiated the SOLUTION study in the third quarter of 2015. SOLUTION is a Phase 3, randomized, open-label, assessor-blind, non-inferiority, active-comparator study evaluating the efficacy and safety of liprotamase in patients with cystic fibrosis-related exocrine pancreatic insufficiency. This pivotal study is intended to evaluate the non-inferiority of liprotamase compared with another commercially available PERT in a population enriched for PERT responders and will enroll up to 150 patients in the United States and Europe. Liprotamase will be supplied in capsule form for the SOLUTION study. A second, smaller Phase 3 study, SIMPLICITY, in younger pediatric subjects is planned for initiation in first half of 2016. The SIMPLICITY study will utilize sachets containing liprotamase powder for oral solution for ease of administration and will enroll approximately 60 patients. We believe the SOLUTION and SIMPLICITY studies may offer a number of potential opportunities for differentiation versus the currently marketed PERTs, including:

- use of biotechnology-derived high-purity enzymes that are produced by fermentation processes rather than from mammalian organs which carry a label warning for viral transmission;
  - use of a novel chemically modified lipase drug substance that provides resistance to degradation;
- a formulation containing an appropriate ratio of the three digestive enzymes (lipase, protease and amylase) to maximize relative efficacy while minimizing the potential for adverse events, such as fibrosing colonopathy;
  - a capsule formulation using known, safe, excipients that provides lower pill burden and good delivery performance. The pure, high-activity enzyme constituents, and absence of bulky enteric coating give rise to smaller, easy-to-swallow capsules with good disintegration once swallowed, and adequate storage stability compared with porcine PERTs of an equivalent lipase unit dose strength; and
- a sachet formulation containing liprotamase powder for oral solution which can be easily dissolved into water, and finally provides patients, especially young pediatric patients, with an easy-to-swallow dosing option.

### Our BAFF Antagonism Portfolio

BAFF, or B-cell Activating Factor, (also known as B lymphocyte stimulator or BLyS), is a member of a tumor necrosis family of natural human proteins and is critical to the development, maintenance and survival of multiple B-cell lineages as well as plasma cells – all of which are critical to the human immune response. B-cells and plasma cells are a vital part of the human immune system, producing natural antibody responses to invading pathogens such as viruses, bacteria and other dangerous antigens. Abnormally high elevations of BAFF, B-cells and plasma cells

have been associated with several autoimmune diseases, including lupus and IgA nephropathy. BAFF is primarily expressed by macrophages, monocytes and dendritic cells and interacts with three different receptors on B-cells and plasma cells including BAFF receptor, or BAFF-R, B-cell maturation antigen, or BCMA, and transmembrane activator and cyclophilin ligand interactor, or TACI. The potential role of BAFF inhibition and associated reductions in B-cell and plasma cell numbers in lupus and rheumatoid arthritis has been validated in multiple clinical studies with blisibimod and other BAFF antagonists.

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Based on data from our Phase 2b clinical study, we have advanced the clinical development of our BAFF inhibitor, blisibimod, to exploit its potential clinical utility in a number of autoimmune diseases. Blisibimod, a peptibody directed against BAFF, 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.

In 2012, we completed the PEARL-SC Phase 2b clinical study, which evaluated the efficacy and safety of multiple doses of subcutaneous blisibimod versus placebo in patients with active and seropositive lupus. Lupus patients suffer from a chronic autoimmune disease, where an inappropriate or abnormal immune response often leads to severe skin rash, fatigue, joint pain, ulceration, major kidney complications, including proteinuria, and cardiovascular disease. Inhibition of BAFF is believed to reduce survival of B-cells and plasma cells and autoantibodies, leading to a reduction in severity of disease and resolution of lupus symptoms.

The development program for blisibimod is focused on evaluating the efficacy and safety of blisibimod in patients with lupus, and IgA nephropathy for which we believe current treatments are either inadequate or non-existent. Our current plan includes continuing the ongoing CHABLIS-SC1 registration clinical study in patients with active lupus and the BRIGHT-SC phase 2 clinical study in patients with IgA nephropathy, initiating CHABLIS-SC 7.5, and evaluating the potential of blisibimod in hematological diseases through clinical and nonclinical investigations. We have successfully manufactured blisibimod at launch-scale quantities. The blisibimod product is designed for at-home, self-administration and is presented as a pre-filled syringe for subcutaneous administration.

### Our Phase 3 Development of Blisibimod in Systemic Lupus Erythematosus (Lupus)

In the third quarter of 2012 at an End of Phase 2 meeting with the United States Food and Drug Administration, or FDA, we presented the results of the PEARL-SC study and our plans for Phase 3 registration studies in patients with active lupus. As a result of this meeting we initiated patient enrollment in the initial Phase 3 CHABLIS-SC1 study in March 2013.

CHABLIS-SC1 is a multicenter, randomized, double-blind, placebo-controlled study designed to evaluate the efficacy, safety, tolerability and immunogenicity of blisibimod in patients with seropositive, clinically-active lupus (SELENA-SLEDAI  $\geq 10$ ) who require corticosteroid therapy in addition to standard-of-care for treatment of their disease. The study enrolled 442 SLE patients to receive either 200mg of blisibimod or placebo in addition to their standard-of-care medication for 52 weeks. Topline data is expected after the last enrolled patient completes 52 weeks of treatment around the third quarter of 2016. The primary endpoint of the CHABLIS-SC1 will be clinical improvement in the SLE Responder Index-6 (SRI-6) response at 52 weeks. Key secondary outcomes from the study, including SRI-8, reduction in the number of lupus flares and steroid use, are intended to provide more insight into blisibimod's efficacy, and further differentiate blisibimod from currently available therapies. The demographics and disease characteristics of the patients enrolled in the CHABLIS-SC1 study are consistent with our goal to enroll patients with higher levels of lupus activity and positive biomarkers despite the stable use of corticosteroids. These characteristics were associated with improved outcomes in both our previous Phase 2 clinical study as well as in large Phase 3 studies conducted with other BAFF-inhibitors, belimumab (Benlysta) and tabalumab.

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We believe the CHABLIS development program for blisibimod may offer a number of potential opportunities for differentiation versus the currently marketed BAFF antagonist and other novel B-cell directed therapies, including:

- clinical differentiation:
  - Ø potential for improved clinical response due to enriched patient selection;
  - Ø a focus on requirement that patients in greater need of alternate therapy as defined by high disease activity and use of steroid therapy at time of randomization;
  - Ø an improved clinical efficacy endpoint which requires a six-point reduction in the SELENA-SLEDAI;
  - Ø earlier onset of clinical benefit by allowing earlier steroid taper and restriction of background medications;
  - Ø potential to demonstrate reductions in lupus flares;
- patient convenience: A convenient, at-home, patient-administered subcutaneous product;
- mechanism of action: Blisibimod is able to inhibit the activity of both membrane-bound and soluble BAFF;
- manufacturing: Blisibimod's novel molecular structure, comprised of 2 identical peptide chains assembled into a covalent dimer, confers manufacturing benefits and lower cost of goods through a bacterial fermentation manufacturing process;
  - structure: Blisibimod's 4 BAFF binding domains, compared to the typical 2 domains in a monoclonal antibody, provides a 350-fold higher affinity for blisibimod (1 picomolar affinity) compared with the reported affinities for the anti-BAFF monoclonal antibody belimumab (Benlysta) ; and
  - fully human IgG1 Fc domain confers acceptable pharmacokinetic properties to support once-weekly dosing.

An independent Data Safety Monitoring Board ("DSMB") meets regularly over the course of the study to assess patient safety. During these regular meetings, the DSMB reviews un-blinded safety data which include adverse events, suspected unexpected serious adverse reactions or SUSARs, deaths, laboratory data, and withdrawal data and compares trends between treatments. After the most recent scheduled meeting in November 2015, the DSMB recommended continuing the CHABLIS-SC1 and BRIGHT-SC clinical studies.

In February 2015, an interim analysis of CHABLIS-SC1 was conducted by an independent un-blinded statistician, who evaluated at a pre-specified time point, the proportion of responders to the systemic lupus erythematosus SRI-6 responder index, and recommended the study to continue to completion as planned. This futility analysis was not intended to provide any rules for stopping for overwhelming efficacy, for a change in study sample size, or for an alteration of the study design. Rather, the analysis suggests that the observed data conforms with the assumptions upon which the trial was designed. The systemic lupus erythematosus response index is a recognized endpoint by the FDA for previously approved therapeutics. Prior to the interim analysis and on the advice of our Scientific Advisory Board who evaluated the published clinical data from other recent lupus studies with BAFF inhibitors, we modified the primary endpoint of CHABLIS-SC1 from a comparison of the proportion of responders to the SRI-8 responder index to a comparison of the proportion of responders to the SRI-6 responder index (previously a secondary endpoint of the study) as data, including emerging observations with tabalumab (Isenberg et al., Annual Meeting of the American College of Rheumatology, November 2014), suggest that SRI-6 responder rates are consistent and stable across multiple trials. Response rates to the SRI-8 responder index will remain a key secondary endpoint of the

study. In addition to serving as a registration study for a potential lupus indication, observations in this study are intended to be included in marketing applications for blisibimod in IgA nephropathy and other indications.

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We submitted a study protocol for our second lupus study, CHABLIS 7.5 (formerly named CHABLIS-SC2), to the FDA in the third quarter of 2015. The CHABLIS 7.5 study's name emphasizes the intent to reduce background corticosteroid medication to  $\leq 7.5$ mg prednisone in order to mitigate the risks associated with long-term steroid medication. This study will evaluate the effect of blisibimod on top of standard-of-care medication in patients with severe, seropositive SLE that is inadequately controlled with corticosteroids. Patient eligibility for this study is informed by responder traits identified in the Phase 2 trial with blisibimod as well as the large Phase 3 programs with other BAFF inhibitors, belimumab and tabalumab. We plan to initiate the CHABLIS 7.5 study in the first half of 2016. These two pivotal studies are anticipated to form the basis of submission for blisibimod as a treatment for active SLE that is not controlled by standard-of-care medication, including corticosteroids.

### Our Phase 2 Development of Blisibimod for Immunoglobulin A Nephropathy

We partnered our development of IgA nephropathy with Zenyaku Kogyo Co., Ltd. ("Zenyaku") through a collaborative and license agreement executed in December 2014, which agreement was terminated effective January 7, 2016. According to the National Organization of Rare Disease, IgA nephropathy, an orphan indication, is believed to affect approximately 130,000 people annually in the United States. In Asia, a higher reported prevalence is attributed to the routine urinalyses that are often performed for school children, and renal biopsies are performed for any patients with asymptomatic hematuria. According to the National Kidney and Urologic Diseases Information Clearinghouse, 25% of adults with IgA nephropathy eventually develop total kidney failure. IgA is a human antibody that helps the body fight infections. IgA nephropathy may occur when plasma B-cells express excessive amounts of abnormal IgA and subsequent immune complexes containing this immunogenic protein are deposited in the kidneys. These IgA deposits build up inside the small blood vessels of the kidney and as a result kidney glomeruli become inflamed and damaged, leading to leakage of blood and protein into urine. According to a recent publication in the New England Journal of Medicine (Wyatt & Julian, 2013), 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.

Similar to patients with other autoimmune diseases such as lupus, in IgA nephropathy, elevated levels of BAFF are associated with histological severity of disease in kidney tissue. In patients with IgA nephropathy, levels of BAFF are significantly higher than in healthy individuals. In IgA nephropathy, increased plasma B-cells express immunogenic IgA that forms immune complexes that deposit in renal tissue and lead to renal inflammation and damage that can progress to renal failure and end-stage renal disease. Significant reductions in plasma B-cells were observed in previous clinical studies of patients with lupus with another BAFF inhibitor antibody, belimumab. In our PEARL-SC Phase 2b study, significant reductions in total B-cells as well as significant improvements in proteinuria and increases in complement C3 were observed with blisibimod in lupus patients. We believe inhibition of BAFF may reduce proliferative B-cells and plasma B-cells, reduce serum levels of IgA and therefore reduce progressive renal damage in patients with IgA nephropathy.

The BRIGHT-SC study is a Phase 2 multicenter, randomized, double-blind, placebo-controlled study to evaluate the efficacy, safety, tolerability and immunogenicity of blisibimod in IgA nephropathy. Enrollment criteria are biopsy-proven IgA nephropathy and proteinuria greater than one gram per 24 hours (1g/24hr). Patients must be receiving standard of care medication including angiotensin converting enzyme inhibitors and angiotensin receptor blockers. The BRIGHT-SC study was initiated in the second quarter of 2013. Patients enrolled in the BRIGHT-SC study receive 300mg weekly blisibimod or placebo subcutaneously during the first 8 weeks of therapy, the induction phase, followed by a minimum of 24 weeks of 200mg weekly blisibimod or placebo, the maintenance phase. The BRIGHT-SC clinical study has enrolled patients in Southeast Asia, the European Union ("EU") and Eastern Europe.

In March 2015, an interim futility analysis of BRIGHT-SC study was conducted by an independent unblinded statistician, who evaluated several important biomarkers of renal disease in patients who had completed at least 8 weeks of treatment and recommended the study to continue to completion as planned. We plan to conduct an analysis

of the clinical data in the first half of 2016 when more than 40 patients have completed 6 months of treatment, followed by a longer-term treatment data in the second half of 2016 when a majority of the patients have completed one year of treatment.

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Manufacturing Strategy

Blisibimod

In December 2011, we completed the manufacturing site transfer from Amgen to our contract manufacturing organization (“CMO”), Fujifilm Diosynth Bioservices (“Fujifilm”). We also scaled up manufacturing from 300 liters up to 3,000 liters. Three batches of blisibimod produced under U.S. and EU good manufacturing procedures (“GMPs”), at the 3,000 liter scale passed all physical quality specifications and comparability assessments.

We have successfully manufactured blisibimod at launch scale volumes to support the CHABLIS-SC1, CHABLIS-7.5 and BRIGHT-SC studies. We are currently evaluating an auto injector strategy for use with the subcutaneous product presentation of blisibimod.

Liprotamase

Technology transfer to commercial scale active pharmaceutical ingredients, or API and drug product manufacturing CMOs was initiated in 2015 and is ongoing. The large scale fermentation and the associated down-stream processing for all three enzyme APIs are anticipated to be complete through process validation in 2016. In parallel, commercial scale capsule and sachet manufacturing are also being established at respective product CMOs.

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](http://www.anthera.com). Information contained on or accessible through our website is not a part of, and is not incorporated into, this prospectus supplement or the accompanying prospectus and should not be considered part of this prospectus supplement or the accompanying prospectus.

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

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THE OFFERING

Common stock offered by us	Shares having an aggregate offering price of up to \$25,000,000.
Common stock to be outstanding after this offering	Up to 46,531,452 shares, assuming a sales price of \$3.83 per share, which was the closing price on The NASDAQ Global Market on April 14, 2016. Actual number of shares issued and outstanding will vary depending on the sales price under this offering.
Use of proceeds	We intend to use the net proceeds from this offering for general corporate purposes. See “Use of Proceeds” on page S-11.
NASDAQ Global Market Symbol	“ANTH”
Risk Factors	This investment involves a high degree of risk. See the information contained in or incorporated by reference under “Risk Factors” beginning on page S-10 of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement.

The number of shares of common stock to be outstanding immediately after this offering is based on 40,004,037 shares outstanding on December 31, 2015 and excludes as of that date:

- options representing the right to purchase a total of 4,255,981 shares of common stock at a weighted average exercise price of \$4.79 per share; and
- warrants representing the right to purchase a total of 40,178 shares of common stock at a weighted-average exercise price of \$48.00 per share.

Except as otherwise noted, all information in this prospectus supplement reflects the public offering price of \$3.83 per share, which was the last reported sale price of our common stock on The NASDAQ Global Market on April 14, 2016.



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RISK FACTORS

An investment in our common stock involves a high degree of risk. Before deciding whether to invest in our common stock, you should carefully consider the risks discussed under the section captioned “Risk Factors” contained in our Annual Report on Form 10-K for the year ended December 31, 2015 and the risks discussed under the section captioned “Risk Factors” contained in our Quarterly Reports on Form 10-Q filed with the Securities and Exchange Commission subsequent to the Form 10-K, and in other documents that we subsequently file with the Securities and Exchange Commission, all of which are incorporated by reference in this prospectus supplement and the accompanying prospectus in their entirety, together with other information in this prospectus supplement, the accompanying prospectus, the information and documents incorporated by reference herein and therein, and in any free writing prospectus that we have authorized for use in connection with this offering. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment.

Risks Relating to this Offering

You will experience immediate and substantial dilution in the book value per share of the common stock you purchase.

The public offering price of our common stock being offered is substantially higher than the net tangible book value per share of our common stock outstanding prior to this offering. Therefore, if you purchase our common stock in this offering, you will incur an immediate substantial dilution of \$2.46 in net tangible book value per share from the price you paid. For a further description of the dilution that you will experience immediately after this offering, see the Section titled “Dilution.”

We have broad discretion to determine how to use the proceeds raised in this offering, and we may not use the proceeds effectively.

Our management will have broad discretion over the use of proceeds from this offering, and we could spend the proceeds from this offering in ways with which you may not agree or that do not yield a favorable return. We intend to use the net proceeds from this offering for clinical research and development and general corporate purposes. We may also use a portion of the net proceeds to acquire or invest in complementary businesses, products and technologies, although we have no current plans, commitments or agreements with respect to any such acquisitions or investments, and we have not allocated the net proceeds from this offering for any specific purposes. If we do not invest or apply the proceeds of this offering in ways that improve our operating results, we may fail to achieve expected financial results, which could cause our stock price to decline.

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USE OF PROCEEDS

We estimate receiving net proceeds from this offering of approximately \$24,170,000, after commissions and estimated expenses payable by us, assuming that an aggregate of \$25,000,000 worth of common stock is sold pursuant to this offering.

We intend to use the net proceeds from this offering for clinical research and development and general corporate purposes. We may also use a portion of the net proceeds to 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.

As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses of the proceeds from this offering. Accordingly, we will retain broad discretion over the use of such proceeds.

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

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## DILUTION

Our net tangible book value as of December 31, 2015 was approximately \$39.7 million, or \$0.99 per share. Net tangible book value per share is determined by dividing our total tangible assets, less total liabilities, by the number of shares of our common stock outstanding as of December 31, 2015. Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the net tangible book value per share of our common stock immediately after this offering.

After giving effect to the sale of our common stock in the aggregate amount of \$25,000,000 offered at an assumed public price of \$3.83 per share, the last reported sale price of our common stock on The NASDAQ Global Market on April 14, 2016, and after deducting commissions and estimated offering expenses payable by us, our net tangible book value as of December 31, 2015 would have been approximately \$72.3 million, or \$1.37 per share of common stock. This represents an immediate increase in the net tangible book value of \$0.38 per share to existing stockholders and an immediate dilution in net tangible book value of \$2.46 per share to new investors purchasing our common stock in this offering. The following table illustrates this per share dilution:

Assumed public offering price per share	\$3.83
Net tangible book value per share as of December 31, 2015	\$0.99
Increase in net tangible book value per share attributable to new investors	\$0.38
As adjusted net tangible book value per share after this offering	\$1.37
Net dilution per share to new investors	\$2.46

The table above assumes for illustrative purposes that an aggregate of 6,527,415 shares of our common stock are sold at a price of \$3.83 per share, the last reported sale price of our common stock on The NASDAQ Global Market on April 14, 2016, for aggregate gross proceeds of \$25,000,000. The shares, if any, sold in this offering will be sold from time to time at various prices. An increase of \$1.00 per share in the price at which the shares are sold from the assumed offering price of \$3.83 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$25,000,000 is sold at that price, would increase our adjusted net tangible book value per share after this offering to \$1.41 per share and would increase the dilution in net tangible book value per share to new investors in this offering to \$3.42 per share, after deducting commissions and estimated aggregate offering expenses payable by us. A decrease of \$1.00 per share in the price at which the shares are sold from the assumed offering price of \$3.83 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$25,000,000 is sold at that price, would decrease our adjusted net tangible book value per share after this offering to \$1.31 per share and would decrease the dilution in net tangible book value per share to new investors in this offering to \$1.52 per share, after deducting commissions and estimated aggregate offering expenses payable by us. This information is supplied for illustrative purposes only.

The number of shares of common stock to be outstanding after this offering is based on 40,004,037 shares outstanding on December 31, 2015 and excludes as of that date:

- options representing the right to purchase a total of 4,255,981 shares of common stock at a weighted average exercise price of \$4.79 per share; and
- warrants representing the right to purchase a total of 40,178 shares of common stock at a weighted-average exercise price of \$48.00 per share.

To the extent that outstanding options or warrants are exercised, investors purchasing our common stock in this offering will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating

plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

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PLAN OF DISTRIBUTION

We have entered into a sales agreement with H.C. Wainwright & Co., LLC, or H.C. Wainwright, under which we may issue and sell from time to time up to \$25,000,000 of our common stock through H.C. Wainwright as our sales agent. Sales of the common stock, if any, will be made at market prices by any method that is deemed to be an “at the market” offering as defined in Rule 415 under the Securities Act, including sales made directly on The NASDAQ Global Market and any other trading market for the common stock, and sales to or through a market maker other than on an exchange.

H.C. Wainwright will offer the common stock subject to the terms and conditions of the sales agreement on a daily basis or as otherwise agreed upon by us and H.C. Wainwright. If we and Wainwright agree on any method of distribution other than sales of our common stock into the The Nasdaq Global Market or another existing trading market at market prices, we will file a further prospectus supplement providing all information about such offering as required under the Securities Act. We will designate the maximum amount of common stock to be sold through H.C. Wainwright on a daily basis or otherwise determine such maximum amount together with H.C. Wainwright. Subject to the terms and conditions of the sales agreement, H.C. Wainwright will use its commercially reasonable efforts to sell on our behalf all of the shares of common stock requested to be sold by us. We may instruct H.C. Wainwright not to sell common stock if the sales cannot be effected at or above the price designated by us in any such instruction. We or H.C. Wainwright may suspend the offering of the common stock being made through H.C. Wainwright under the sales agreement upon proper notice to the other party. We and H.C. Wainwright each have the right, by giving written notice as specified in the sales agreement, to terminate the sales agreement in each party’s sole discretion at any time.

The aggregate compensation payable to H.C. Wainwright as sales agent shall be equal to 3.0% of the gross sales price of the shares sold through it pursuant to the sales agreement.

The remaining sales proceeds, after deducting any expenses payable by us and any transaction fees imposed by any governmental, regulatory, or self-regulatory organization in connection with the sales, will equal our net proceeds for the sale of such common stock.

H.C. Wainwright will provide written confirmation to us following the close of trading on The NASDAQ Global Market as applicable, each day in which common stock is sold through it as sales agent under the sales agreement. Each confirmation will include the number of shares of common stock sold through it as sales agent on that day, the gross sales price per share, the net proceeds to us and the compensation payable by us to H.C. Wainwright.

We will report at least quarterly the number of shares of common stock sold through H.C. Wainwright under the sales agreement, the net proceeds to us and the compensation paid by us to H.C. Wainwright in connection with the sales of common stock.

Settlement for sales of common stock will occur, unless the parties agree otherwise, on the third business day that is also a trading day following the date on which any sales were made in return for payment of the net proceeds to us. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

In connection with the sales of the common stock on our behalf, H.C. Wainwright may be deemed to be an “underwriter” within the meaning of the Securities Act, and the compensation paid to H.C. Wainwright may be deemed to be underwriting commissions or discounts. We have agreed in the sales agreement to provide indemnification and contribution to H.C. Wainwright against certain liabilities, including liabilities under the Securities Act. In addition, we have agreed, under certain circumstances, to reimburse a portion of the expenses of H.C. Wainwright in connection with this offering up to a maximum of \$30,000. As sales agent, H.C. Wainwright will not engage in any transactions that stabilize our common stock.



We estimate that the total expenses of the offering payable by us, excluding commissions payable to H.C. Wainwright under the sales agreement, will be approximately \$80,000.

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LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by Goodwin Procter LLP, San Francisco, California. Certain legal matters relating to this offering will be passed upon for H.C. Wainwright by Ellenoff Grossman & Schole LLP, New York, New York.

EXPERTS

The financial statements as of December 31, 2015 and 2014 and for each of the three years in the period ended December 31, 2015 and management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2015 incorporated by reference in this prospectus supplement and the accompanying prospectus have been so incorporated by reference in this prospectus supplement and the accompanying prospectus in reliance on the reports of BDO USA, LLP, an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference into this prospectus supplement the information contained in other documents we file with the SEC, which means that we can disclose important information to you by referring you to those documents. Any statement contained in any document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded, for purposes of this prospectus supplement, to the extent that a statement contained in or omitted from this prospectus supplement, or in any other subsequently filed document that also is or is deemed to be incorporated by reference herein, modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus supplement. We incorporate by reference the documents listed below which have been filed by us:

1. Our Annual Report on Form 10-K for the year ended December 31, 2015 filed on March 14, 2016, as amended by the Form 10-K/A filed on April 20, 2016;
2. Our Definitive Proxy Statement on Schedule 14A filed with the SEC on March 15, 2016;
3. Our Current Reports on Form 8-K filed with the SEC on January 8, 2016 (with respect to Item 5.02 only), January 29, 2016, February 17, 2016 and March 8, 2016 (with respect to Item 5.02 only); and
4. The description of our common stock contained in our registration statement on Form 8-A (File No. 001-34637) filed with the SEC on February 22, 2010, including any amendment or report filed for the purpose of updating such description.

We will provide, without charge, to each person, including any beneficial owner, to whom a copy of this prospectus supplement is delivered, upon such person's written or oral request, a copy of any and all of the information incorporated by reference in this prospectus supplement, other than exhibits to such documents, unless such exhibits are specifically incorporated by reference into the information that this prospectus supplement incorporates. Requests should be directed to the Corporate Secretary, Anthera Pharmaceuticals, Inc., 25801 Industrial Boulevard, Suite B, Hayward, California 94545; telephone: (510) 856-5600. We have authorized no one to provide you with any information that differs from that contained in this prospectus supplement. Accordingly, you should not rely on any information that is not contained in this prospectus supplement. You should not assume that the information in this prospectus supplement is accurate as of any date other than the date of the front cover of this prospectus supplement.



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PROSPECTUS

\$100,000,000

Common Stock

Preferred Stock

Debt Securities

Warrants

We may offer and sell an indeterminate number of shares of our common stock and preferred stock, debt securities and warrants from time to time under this prospectus. We may offer these securities separately or as units, which may include combinations of the securities. We will describe in a prospectus supplement the securities we are offering and selling, as well as the specific terms of the securities.

We may offer these securities in amounts, at prices and on terms determined at the time of offering. We may sell the securities directly to you, through agents we select, or through underwriters and dealers we select. If we use agents, underwriters or dealers to sell the securities, we will name them and describe their compensation in a prospectus supplement.

Our common stock is traded on the NASDAQ Global Market under the symbol "ANTH". On March 11, 2016, the closing sale price of our common stock on the NASDAQ Global Market was \$4.20 per share.

Investing in our securities involves certain risks. See "Risk Factors" beginning on page 4 of this prospectus and in the applicable prospectus supplement for certain risks you should consider. You should read the entire prospectus carefully before you make your investment decision.

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

The date of this prospectus is April 18, 2016.

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PROSPECTUS SUMMARY

About this Prospectus

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or SEC, utilizing a shelf registration process. Under the shelf registration process, we may offer shares of our common stock and preferred stock, various series of debt securities and warrants to purchase any of 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. This prospectus provides you with a general description of the securities we may offer. 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, including, to the extent applicable:

- designation or classification;
- aggregate principal amount or aggregate offering price;
- maturity;
- original issue discount, if any;
- rates and times of payment of interest, dividends or other payments, if any;
- redemption, conversion, exchange, settlement or sinking fund terms, if any;
- conversion, exchange or settlement prices or rates, if any, and, if applicable, any provisions for changes to or adjustments in the conversion, exchange or settlement prices or rates and in the securities or other property receivable upon conversion, exchange or settlement;
- ranking;
- restrictive covenants, if any;
- voting or other rights, if any; and
- important federal income tax considerations.

A prospectus supplement may include a discussion of risks or other special considerations applicable to us or the offered securities. A prospectus supplement may also add, update or change information in this prospectus. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you must rely on the information in the prospectus supplement. Please carefully read both this prospectus and the applicable prospectus supplement together with additional information described under the heading “Where You Can Find More Information.” This prospectus may not be used to offer or sell any securities unless accompanied by a prospectus supplement.

The registration statement containing this prospectus, including exhibits to the registration statement, provides additional information about us and the common stock offered under this prospectus. The registration statement can be read at the SEC website or at the SEC’s public reading room mentioned under the heading “Where You Can Find More Information.”

We have not authorized any broker-dealer, salesperson or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus and the accompanying supplement to this prospectus. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus or the accompanying prospectus supplement. This prospectus and the accompanying supplement to this prospectus do not constitute an offer to sell or the solicitation of an offer to buy securities, nor do this prospectus and the accompanying supplement to this prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation. The information contained in this prospectus and the accompanying prospectus supplement speaks only as of the date set forth on the cover page and may not reflect subsequent changes in our business, financial condition, results of operations and prospects even though this prospectus and any accompanying prospectus supplement is delivered or securities are sold on a later date.

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We may sell the securities directly to or through underwriters, dealers or agents. We, and our underwriters or agents, reserve the right to accept or reject all or part of any proposed purchase of securities. If we do offer securities through underwriters or agents, we will include in the applicable prospectus supplement:

- the names of those underwriters or agents;
- applicable fees, discounts and commissions to be paid to them;
- details regarding over-allotment options, if any; and
- the net proceeds to us.

**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.

**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.

**Debt Securities.** We may issue debt securities from time to time, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. The senior debt securities will rank equally with any other unsubordinated debt that we may have and may be secured or unsecured. The subordinated debt securities will be subordinate and junior in right of payment, to the extent and in the manner described in the instrument governing the debt, to all or some portion of our indebtedness. Any convertible debt securities that we issue will be convertible into or exchangeable for our common stock or other securities of ours. Conversion may be mandatory or at your option and would be at prescribed conversion rates.

If we issue debt securities, they will be issued under one or more documents called indentures, which are contracts between us and a trustee for the holders of the debt securities. We urge you to read the prospectus supplement related to the series of debt securities being offered, as well as the complete indenture that contains the terms of the debt securities (which will include a supplemental indenture). If we issue debt securities, indentures and forms of debt securities containing the terms of debt securities being offered will be incorporated by reference into the registration statement of which this prospectus is a part from reports we would subsequently file with the SEC.





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

If we issue warrants, they will be evidenced by warrant agreements or warrant certificates issued under one or more warrant agreements, which are contracts between us and an agent for the holders of the warrants. We urge you to read the prospectus supplement related to any series of warrants we may offer, as well as the complete warrant agreement and warrant certificate that contain the terms of the warrants. If we issue warrants, forms of warrant agreements and warrant certificates relating to warrants for the purchase of common stock, preferred stock and debt securities will be incorporated by reference into the registration statement of which this prospectus is a part from reports we would subsequently file with the SEC.

About Anthera Pharmaceuticals, Inc.

We are a biopharmaceutical company focused on advancing the development and commercialization of innovative medicines that benefit patients with unmet medical needs. We currently have two phase 3 product candidates, liprotamase, also known as 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 systemic lupus erythematosus (“SLE”), or lupus, Immunoglobulin A nephropathy, or IgA nephropathy, lupus nephritis, and others.

For additional information about our company, please refer to other documents we have filed with the SEC and that are incorporated by reference into this prospectus, as listed under the heading “Incorporation of Certain Information by Reference.” Copies of our current and periodic reports filed with the SEC are available at the SEC Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549, and online at [www.sec.gov](http://www.sec.gov) and our website at [www.anthera.com](http://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 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.

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

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

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RISK FACTORS

Before making an investment decision, you should carefully consider the risks described under “Risk Factors” in the applicable prospectus supplement, together with all of the other information appearing in this prospectus or incorporated by reference into this prospectus and any applicable prospectus supplement, in light of your particular investment objectives and financial circumstances. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The trading price of our securities could decline due to any of these risks, and you may lose all or part of your investment. This prospectus and the incorporated documents also contain forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks mentioned elsewhere in this prospectus.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

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

- our expectations related to the use of proceeds, if any, from this offering;
- the progress of, timing of and amount of expenses associated with our research, development and commercialization activities;
- the timing, conduct and success of our clinical studies for our product candidates;
- our ability to obtain U.S. and foreign regulatory approval for our product candidates and the ability of our product candidates to meet existing or future regulatory standards;
- our expectations regarding federal, state and foreign regulatory requirements;
- the therapeutic benefits and effectiveness of our product candidates;
- the accuracy of our estimates of the size and characteristics of the markets that may be addressed by our product candidates;
- our ability to manufacture sufficient amounts of our product candidates for clinical studies and products for commercialization activities;

- our intention to seek to establish strategic collaborations or partnerships for the development or sale of our product candidates;
- our expectations as to future financial performance, expense levels and liquidity sources;
  - the timing of commercializing our product candidates;

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- 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 or any prospectus supplement.

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

## DESCRIPTION OF SECURITIES

We may offer shares of our common stock and preferred stock, various series of debt securities 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.

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### 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 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 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.



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### 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 Global Market Listing

Our common stock is listed on The NASDAQ Global 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.

### Description of Debt Securities

The paragraphs below describe the general terms and provisions of the debt securities we may issue. When we offer to sell a particular series of debt securities, we will describe the specific terms of the securities in a supplement to this prospectus, including any additional covenants or changes to existing covenants relating to such series. The prospectus supplement also will indicate whether the general terms and provisions described in this prospectus apply to a particular series of debt securities. You should read the actual indenture if you do not fully understand a term or the

way we use it in this prospectus.

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We may offer senior or subordinated debt securities. Each series of debt securities may have different terms. The senior debt securities will be issued under one or more senior indentures, dated as of a date prior to such issuance, between us and a trustee, as amended or supplemented from time to time. We will refer to any such indenture throughout this prospectus as the “senior indenture.” Any subordinated debt securities will be issued under one or more separate indentures, dated as of a date prior to such issuance, between us and a trustee, as amended or supplemented from time to time. We will refer to any such indenture throughout this prospectus as the “subordinated indenture” and to the trustee under the senior or subordinated indenture as the “trustee.” The senior indenture and the subordinated indenture are sometimes collectively referred to in this prospectus as the “indentures.” The indentures will be subject to and governed by the Trust Indenture Act of 1939, as amended. We included copies of the forms of the indentures as exhibits to our registration statement and they are incorporated into this prospectus by reference.

If we issue debt securities at a discount from their principal amount, then, for purposes of calculating the aggregate initial offering price of the offered securities issued under this prospectus, we will include only the initial offering price of the debt securities and not the principal amount of the debt securities.

We have summarized below the material provisions of the indentures and the debt securities, or indicated which material provisions will be described in the related prospectus supplement. The prospectus supplement relating to any particular securities offered will describe the specific terms of the securities, which may be in addition to or different from the general terms summarized in this prospectus. Because the summary in this prospectus and in any prospectus supplement does not contain all of the information that you may find useful, you should read the documents relating to the securities that are described in this prospectus or in any applicable prospectus supplement. Please read “Where You Can Find More Information” to find out how you can obtain a copy of those documents. Except as otherwise indicated, the terms of the indentures are identical. As used under this caption, the term “debt securities” includes the debt securities being offered by this prospectus and all other debt securities issued by us under the indentures.

### General

The indentures:

- do not limit the amount of debt securities that we may issue;
- allow us to issue debt securities in one or more series;
- do not require us to issue all of the debt securities of a series at the same time;
- allow us to reopen a series to issue additional debt securities without the consent of the holders of the debt securities of such series; and
- provide that the debt securities will be unsecured, except as may be set forth in the applicable prospectus supplement.

Unless we give you different information in the applicable prospectus supplement, the senior debt securities will be unsubordinated obligations and will rank equally with all of our other unsecured and unsubordinated indebtedness. Payments on the subordinated debt securities will be subordinated to the prior payment in full of all of our senior indebtedness, as described under “Description of the Debt Securities—Subordination” and in the applicable prospectus supplement.

Each indenture provides that we may, but need not, designate more than one trustee under an indenture. Any trustee under an indenture may resign or be removed and a successor trustee may be appointed to act with respect to the series

of debt securities administered by the resigning or removed trustee. If two or more persons are acting as trustee with respect to different series of debt securities, each trustee shall be a trustee of a trust under the applicable indenture separate and apart from the trust administered by any other trustee. Except as otherwise indicated in this prospectus, any action described in this prospectus to be taken by each trustee may be taken by each trustee with respect to, and only with respect to, the one or more series of debt securities for which it is trustee under the applicable indenture.

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The prospectus supplement for each offering will provide the following terms, where applicable:

- the title of the debt securities and whether they are senior or subordinated;
- the aggregate principal amount of the debt securities being offered, the aggregate principal amount of the debt securities outstanding as of the most recent practicable date and any limit on their aggregate principal amount, including the aggregate principal amount of debt securities authorized;
- the price at which the debt securities will be issued, expressed as a percentage of the principal and, if other than the principal amount thereof, the portion of the principal amount thereof payable upon declaration of acceleration of the maturity thereof or, if applicable, the portion of the principal amount of such debt securities that is convertible into common stock or preferred stock or the method by which any such portion shall be determined;
- if convertible, the terms on which such debt securities are convertible, including the initial conversion price or rate and the conversion period and any applicable limitations on the ownership or transferability of common stock or preferred stock received on conversion;
- the date or dates, or the method for determining the date or dates, on which the principal of the debt securities will be payable;
- the fixed or variable interest rate or rates of the debt securities, or the method by which the interest rate or rates is determined;
  - the date or dates, or the method for determining the date or dates, from which interest will accrue;
    - the dates on which interest will be payable;
  - the record dates for interest payment dates, or the method by which we will determine those dates;
    - the persons to whom interest will be payable;
- the basis upon which interest will be calculated if other than that of a 360-day year of twelve 30-day months;
- any make-whole amount, which is the amount in addition to principal and interest that is required to be paid to the holder of a debt security as a result of any optional redemption or accelerated payment of such debt security, or the method for determining the make-whole amount;
- the place or places where the principal of, and any premium, or make-whole amount, and interest on, the debt securities will be payable;
  - where the debt securities may be surrendered for registration of transfer or conversion or exchange;
- where notices or demands to or upon us in respect of the debt securities and the applicable indenture may be served;
  - the times, prices and other terms and conditions upon which we may redeem the debt securities;
- any obligation we have to redeem, repay or purchase the debt securities pursuant to any sinking fund or analogous provision or at the option of holders of the debt securities, and the times and prices at which we must redeem, repay or purchase the debt securities as a result of such an obligation;



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- the currency or currencies in which the debt securities are denominated and payable if other than United States dollars, which may be a foreign currency or units of two or more foreign currencies or a composite currency or currencies and the terms and conditions relating thereto, and the manner of determining the equivalent of such foreign currency in United States dollars;
- whether the principal of, and any premium, or make-whole amount, or interest on, the debt securities of the series are to be payable, at our election or at the election of a holder, in a currency or currencies other than that in which the debt securities are denominated or stated to be payable, and other related terms and conditions;
- whether the amount of payments of principal of, and any premium, or make-whole amount, or interest on, the debt securities may be determined according to an index, formula or other method and how such amounts will be determined;
- whether the debt securities will be in registered form, bearer form or both and (1) if in registered form, the person to whom any interest shall be payable, if other than the person in whose name the security is registered at the close of business on the regular record date for such interest, or (2) if in bearer form, the manner in which, or the person to whom, any interest on the security shall be payable if otherwise than upon presentation and surrender upon maturity;
- any restrictions applicable to the offer, sale or delivery of securities in bearer form and the terms upon which securities in bearer form of the series may be exchanged for securities in registered form of the series and vice versa if permitted by applicable laws and regulations;
- whether any debt securities of the series are to be issuable initially in temporary global form and whether any debt securities of the series are to be issuable in permanent global form with or without coupons and, if so, whether beneficial owners of interests in any such permanent global security may or shall be required to exchange their interests for other debt securities of the series, and the manner in which interest shall be paid;
- the identity of the depository for securities in registered form, if such series are to be issuable as a global security;
- the date as of which any debt securities in bearer form or in temporary global form shall be dated if other than the original issuance date of the first security of the series to be issued;
- the applicability, if any, of the defeasance and covenant defeasance provisions described in this prospectus or in the applicable indenture;
- whether and under what circumstances we will pay any additional amounts on the debt securities in respect of any tax, assessment or governmental charge and, if so, whether we will have the option to redeem the debt securities in lieu of making such a payment;
- whether and under what circumstances the debt securities being offered are convertible into common stock or preferred stock, as the case may be, including the conversion price or rate or manner or calculation thereof;
- the circumstances, if any, specified in the applicable prospectus supplement, under which beneficial owners of interests in the global security may obtain definitive debt securities and the manner in which payments on a permanent global debt security will be made if any debt securities are issuable in temporary or permanent global form;
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any provisions granting special rights to holders of securities upon the occurrence of such events as specified in the applicable prospectus supplement;

- if the debt securities of such series are to be issuable in definitive form only upon receipt of certain certificates or other documents or satisfaction of other conditions, then the form and/or terms of such certificates, documents or conditions;



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- the name of the applicable trustee and the nature of any material relationship with us or any of our affiliates, and the percentage of debt securities of the class necessary to require the trustee to take action;
- any deletions from, modifications of, or additions to our events of default or covenants and any change in the right of any trustee or any of the holders to declare the principal amount of any of such debt securities due and payable;
- applicable CUSIP numbers; and
- any other terms of such debt securities not inconsistent with the provisions of the applicable indenture.

We may issue debt securities at a discount below their principal amount and provide for less than the entire principal amount thereof to be payable upon declaration of acceleration of the maturity of the debt securities. We refer to any such debt securities throughout this prospectus as “original issue discount securities.” The applicable prospectus supplement will describe the United States federal income tax consequences and other relevant considerations applicable to original issue discount securities.

We also may issue indexed debt securities. Payments of principal of and premium and interest on, indexed debt securities are determined with reference to the rate of exchange between the currency or currency unit in which the debt security is denominated and any other currency or currency unit specified by us, to the relationship between two or more currencies or currency units or by other similar methods or formulas specified in the prospectus supplement.

Except as described under “—Merger, Consolidation or Sale of Assets” or as may be set forth in any prospectus supplement, the debt securities will not contain any provisions that (1) would limit our ability to incur indebtedness or (2) would afford holders of debt securities protection in the event of (a) a highly leveraged or similar transaction involving us, or (b) a change of control or reorganization, restructuring, merger or similar transaction involving us that may adversely affect the holders of the debt securities. In the future, we may enter into transactions, such as the sale of all or substantially all of our assets or a merger or consolidation, that may have an adverse effect on our ability to service our indebtedness, including the debt securities, by, among other things, substantially reducing or eliminating our assets.

Neither the Delaware General Corporation Law nor our governing instruments define the term “substantially all” as it relates to the sale of assets. Additionally, Delaware cases interpreting the term “substantially all” rely upon the facts and circumstances of each particular case. Consequently, to determine whether a sale of “substantially all” of our assets has occurred, a holder of debt securities must review the financial and other information that we have disclosed to the public.

We will provide you with more information in the applicable prospectus supplement regarding any deletions, modifications, or additions to the events of default or covenants that are described below, including any addition of a covenant or other provision providing event risk or similar protection.

## Payment

Unless we give you different information in the applicable prospectus supplement, the principal of, and any premium, or make-whole amount, and interest on, any series of the debt securities will be payable at the corporate trust office of the trustee. We will provide you with the address of the trustee in the applicable prospectus supplement. We may also pay interest by mailing a check to the address of the person entitled to it as it appears in the applicable register for the debt securities or by wire transfer of funds to that person at an account maintained within the United States.

All monies that we pay to a paying agent or a trustee for the payment of the principal of, and any premium, or make-whole amount, or interest on, any debt security will be repaid to us if unclaimed at the end of two years after the obligation underlying payment becomes due and payable. After funds have been returned to us, the holder of the debt security may look only to us for payment, without payment of interest for the period which we hold the funds.

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### Denomination, Interest, Registration and Transfer

Unless otherwise described in the applicable prospectus supplement, the debt securities of any series will be issuable in denominations of \$1,000 and integral multiples of \$1,000.

Subject to the limitations imposed upon debt securities that are evidenced by a computerized entry in the records of a depository company rather than by physical delivery of a note, a holder of debt securities of any series may:

- exchange them for any authorized denomination of other debt securities of the same series and of a like aggregate principal amount and kind upon surrender of such debt securities at the corporate trust office of the applicable trustee or at the office of any transfer agent that we designate for such purpose; and
- surrender them for registration of transfer or exchange at the corporate trust office of the applicable trustee or at the office of any transfer agent that we designate for such purpose.

Every debt security surrendered for registration of transfer or exchange must be duly endorsed or accompanied by a written instrument of transfer satisfactory to the applicable trustee or transfer agent. Payment of a service charge will not be required for any registration of transfer or exchange of any debt securities, but we or the trustee may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection therewith. If in addition to the applicable trustee, the applicable prospectus supplement refers to any transfer agent initially designated by us for any series of debt securities, we may at any time rescind the designation of any such transfer agent or approve a change in the location through which any such transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for such series. We may at any time designate additional transfer agents for any series of debt securities.

Neither we, nor any trustee, will be required to:

- issue, register the transfer of or exchange debt securities of any series during a period beginning at the opening of business 15 days before the day that the notice of redemption of any debt securities selected for redemption is mailed and ending at the close of business on the day of such mailing;
- register the transfer of or exchange any debt security, or portion thereof, so selected for redemption, in whole or in part, except the unredeemed portion of any debt security being redeemed in part; and
- issue, register the transfer of or exchange any debt security that has been surrendered for repayment at the option of the holder, except the portion, if any, of such debt security not to be so repaid.

### Merger, Consolidation or Sale of Assets

The indentures provide that we may, without the consent of the holders of any outstanding debt securities, (1) consolidate with, (2) sell, lease or convey all or substantially all of our assets to, or (3) merge with or into, any other entity provided that:

- either we are the continuing entity, or the successor entity, if other than us, assumes the obligations (A) to pay the principal of, and any premium (or make-whole amount) and interest on, all of the debt securities and (B) to duly perform and observe all of the covenants and conditions contained in each indenture;
- after giving effect to the transaction, there is no event of default under the indentures and no event which, after notice or the lapse of time, or both, would become such an event of default, occurs and continues; and

- an officers' certificate and legal opinion covering such conditions are delivered to each applicable trustee.

#### Covenants

Existence. Except as permitted under “—Merger, Consolidation or Sale of Assets,” the indentures require us to do or cause to be done all things necessary to preserve and keep in full force and effect our existence, rights and franchises. However, the indentures do not require us to preserve any right or franchise if we determine that any right or franchise is no longer desirable in the conduct of our business.

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Provision of financial information. The indentures require us to (1) within 15 days of each of the respective dates by which we are required to file our annual reports, quarterly reports and other documents with the SEC, file with the trustee copies of the annual report, quarterly report and other documents that we file with the SEC under Section 13 or 15(d) of the Exchange Act, (2) file with the trustee and the SEC any additional information, documents and reports regarding compliance by us with the conditions and covenants of the indentures, as required, (3) within 30 days after the filing with the trustee, mail to all holders of debt securities, as their names and addresses appear in the applicable register for such debt securities, without cost to such holders, summaries of any documents and reports required to be filed by us pursuant to (1) and (2) above, and (4) supply, promptly upon written request and payment of the reasonable cost of duplication and delivery, copies of such documents to any prospective holder.

Additional covenants. The applicable prospectus supplement will set forth any additional covenants of Anthera relating to any series of debt securities.

### Events of Default, Notice and Waiver

Unless the applicable prospectus supplement states otherwise, when we refer to “events of default” as defined in the indentures with respect to any series of debt securities, we mean:

- default in the payment of any installment of interest on any debt security of such series continuing for 30 days;
- default in the payment of principal of, or any premium, or make-whole amount, on any debt security of such series for five business days at its stated maturity;
- default in making any sinking fund payment as required for any debt security of such series for five business days;
- default in the performance or breach of any covenant or warranty in the debt securities or in the indenture by Anthera continuing for 60 days after written notice as provided in the applicable indenture, but not of a covenant added to the indenture solely for the benefit of a series of debt securities issued thereunder other than such series;
- bankruptcy, insolvency or reorganization, or court appointment of a receiver, liquidator or trustee of Anthera or any significant subsidiary of Anthera; and
  - any other event of default provided with respect to a particular series of debt securities.

When we use the term “significant subsidiary,” we refer to the meaning ascribed to such term in Rule 1-02 of Regulation S-X promulgated under the Securities Act of 1933, as amended, or Securities Act.

If an event of default occurs and is continuing with respect to debt securities of any series outstanding, then the applicable trustee or the holders of 25% or more in principal amount of the debt securities of that series will have the right to declare the principal amount of all the debt securities of that series to be due and payable. If the debt securities of that series are original issue discount securities or indexed securities, then the applicable trustee or the holders of 25% or more in principal amount of the debt securities of that series will have the right to declare the portion of the principal amount as may be specified in the terms thereof to be due and payable. However, at any time after such a declaration of acceleration has been made, but before a judgment or decree for payment of the money due has been obtained by the applicable trustee, the holders of at least a majority in principal amount of outstanding debt securities of such series or of all debt securities then outstanding under the applicable indenture may rescind and annul such declaration and its consequences if:

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we have deposited with the applicable trustee all required payments of the principal, any premium, or make-whole amount, interest and, to the extent permitted by law, interest on overdue installment of interest, plus applicable fees, expenses, disbursements and advances of the applicable trustee; and

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- all events of default, other than the non-payment of accelerated principal, or a specified portion thereof, and any premium, or make-whole amount, have been cured or waived.

The indentures also provide that the holders of at least a majority in principal amount of the outstanding debt securities of any series or of all debt securities then outstanding under the applicable indenture may, on behalf of all holders, waive any past default with respect to such series and its consequences, except a default:

- in the payment of the principal, any premium, or make-whole amount, or interest;
- in respect of a covenant or provision contained in the applicable indenture that cannot be modified or amended without the consent of the holders of the outstanding debt security that is affected by the default; or
- in respect of a covenant or provision for the benefit or protection of the trustee, without its express written consent.

The indentures require each trustee to give notice to the holders of debt securities within 90 days of a default unless such default has been cured or waived. However, the trustee may withhold notice if specified persons of such trustee consider such withholding to be in the interest of the holders of debt securities. The trustee may not withhold notice of a default in the payment of principal, any premium or interest on any debt security of such series or in the payment of any sinking fund installment in respect of any debt security of such series.

The indentures provide that holders of debt securities of any series may not institute any proceedings, judicial or otherwise, with respect to such indenture or for any remedy under the indenture, unless the trustee fails to act for a period of 60 days after the trustee has received a written request to institute proceedings in respect of an event of default from the holders of 25% or more in principal amount of the outstanding debt securities of such series, as well as an offer of indemnity reasonably satisfactory to the trustee. However, this provision will not prevent any holder of debt securities from instituting suit for the enforcement of payment of the principal of, and any premium, or make-whole amount, and interest on, such debt securities at the respective due dates thereof.

The indentures provide that, subject to provisions in each indenture relating to its duties in the case of a default, a trustee has no obligation to exercise any of its rights or powers at the request or direction of any holders of any series of debt securities then outstanding under the indenture, unless the holders have offered to the trustee reasonable security or indemnity. The holders of at least a majority in principal amount of the outstanding debt securities of any series or of all debt securities then outstanding under an indenture shall have the right to direct the time, method and place of conducting any proceeding for any remedy available to the applicable trustee, or of exercising any trust or power conferred upon such trustee. However, a trustee may refuse to follow any direction which:

- is in conflict with any law or the applicable indenture;
- upon a good faith determination of a responsible officer of the trustee, may involve the trustee in personal liability; or
- upon a good faith determination of a responsible officer of the trustee, may be unduly prejudicial to the holders of debt securities of the series not joining the proceeding.

Within 120 days after the close of each fiscal year, we will be required to deliver to each trustee a certificate, signed by one of our several specified officers, stating whether or not that officer has knowledge of any default under the applicable indenture. If the officer has knowledge of any default, the notice must specify the nature and status of the default.

Modification of the Indentures

The indentures provide that modifications and amendments may be made only with the consent of the affected holders of at least a majority in principal amount of all outstanding debt securities issued under that indenture. However, no such modification or amendment may, without the consent of the holders of the debt securities affected by the modification or amendment:



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- change the stated maturity of the principal of, or any premium, or make-whole amount, on, or any installment of principal of or interest on, any such debt security;
- reduce the principal amount of, the rate or amount of interest on or any premium, or make-whole amount, payable on redemption of any such debt security;
- reduce the amount of principal of an original issue discount security that would be due and payable upon declaration of acceleration of the maturity thereof or would be provable in bankruptcy, or adversely affect any right of repayment of the holder of any such debt security;
- change the place of payment or the coin or currency for payment of principal of, or any premium, or make-whole amount, or interest on, any such debt security;
- impair the right to institute suit for the enforcement of any payment on or with respect to any such debt security;
- reduce the percentage in principal amount of any outstanding debt securities necessary to modify or amend the applicable indenture with respect to such debt securities, to waive compliance with particular provisions thereof or defaults and consequences thereunder or to reduce the quorum or voting requirements set forth in the applicable indenture; and
  - modify any of the foregoing provisions or any of the provisions relating to the waiver of particular past defaults or covenants, except to increase the required percentage to effect such action or to provide that some of the other provisions may not be modified or waived without the consent of the holder of such debt security.

The holders of a majority in aggregate principal amount of the outstanding debt securities of each series may, on behalf of all holders of debt securities of that series, waive, insofar as that series is concerned, our compliance with material restrictive covenants of the applicable indenture.

We and our respective trustee may make modifications and amendments of an indenture without the consent of any holder of debt securities for any of the following purposes:

- to evidence the succession of another person to us as obligor under such indenture;
- to add to our covenants for the benefit of the holders of all or any series of debt securities or to surrender any right or power conferred upon us in such indenture;
  - to add events of default for the benefit of the holders of all or any series of debt securities;
- to add or change any provisions of an indenture (1) to change or eliminate restrictions on the payment of principal of, or premium, or make-whole amount, or interest on, debt securities in bearer form, or (2) to permit or facilitate the issuance of debt securities in uncertificated form, provided that such action shall not adversely affect the interests of the holders of the debt securities of any series in any material respect;
- to change or eliminate any provisions of an indenture, provided that any such change or elimination shall become effective only when there are no debt securities outstanding of any series created prior thereto which are entitled to the benefit of such provision;
  - to secure the debt securities;

- to establish the form or terms of debt securities of any series;
- to provide for the acceptance of appointment by a successor trustee or facilitate the administration of the trusts under an indenture by more than one trustee;
- to cure any ambiguity, defect or inconsistency in an indenture, provided that such action shall not adversely affect the interests of holders of debt securities of any series issued under such indenture; and

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- to supplement any of the provisions of an indenture to the extent necessary to permit or facilitate defeasance and discharge of any series of such debt securities, provided that such action shall not adversely affect the interests of the holders of the outstanding debt securities of any series.

## Voting

The indentures provide that in determining whether the holders of the requisite principal amount of outstanding debt securities of a series have given any request, demand, authorization, direction, notice, consent or waiver under the indentures or whether a quorum is present at a meeting of holders of debt securities:

- the principal amount of an original issue discount security that shall be deemed to be outstanding shall be the amount of the principal thereof that would be due and payable as of the date of such determination upon declaration of acceleration of the maturity thereof;
  - the principal amount of any debt security denominated in a foreign currency that shall be deemed outstanding shall be the United States dollar equivalent, determined on the issue date for such debt
- security, of the principal amount or, in the case of an original issue discount security, the United States dollar equivalent on the issue date of such debt security of the amount determined as provided in the preceding bullet point;
- the principal amount of an indexed security that shall be deemed outstanding shall be the principal face amount of such indexed security at original issuance, unless otherwise provided for such indexed security under such indenture; and
- debt securities owned by us or any other obligor upon the debt securities or by any affiliate of ours or of such other obligor shall be disregarded.

The indentures contain provisions for convening meetings of the holders of debt securities of a series. A meeting will be permitted to be called at any time by the applicable trustee, and also, upon request, by us or the holders of at least 25% in principal amount of the outstanding debt securities of such series, in any such case upon notice given as provided in such indenture. Except for any consent that must be given by the holder of each debt security affected by the modifications and amendments of an indenture described above, any resolution presented at a meeting or adjourned meeting duly reconvened at which a quorum is present may be adopted by the affirmative vote of the holders of a majority of the aggregate principal amount of the outstanding debt securities of that series represented at such meeting.

Notwithstanding the preceding paragraph, except as referred to above, any resolution relating to a request, demand, authorization, direction, notice, consent, waiver or other action that may be made, given or taken by the holders of a specified percentage, which is less than a majority of the aggregate principal amount of the outstanding debt securities of a series, may be adopted at a meeting or adjourned meeting duly reconvened at which a quorum is present by the affirmative vote of such specified percentage.

Any resolution passed or decision taken at any properly held meeting of holders of debt securities of any series will be binding on all holders of such series. The quorum at any meeting called to adopt a resolution, and at any reconvened meeting, will be persons holding or representing a majority in principal amount of the outstanding debt securities of a series. However, if any action is to be taken relating to a consent or waiver which may be given by the holders of at least a specified percentage in principal amount of the outstanding debt securities of a series, the persons holding such percentage will constitute a quorum.

Notwithstanding the foregoing provisions, the indentures provide that if any action is to be taken at a meeting with respect to any request, demand, authorization, direction, notice, consent, waiver or other action that such indenture expressly provides may be made, given or taken by the holders of a specified percentage in principal amount of all outstanding debt securities affected by such action, or of the holders of such series and one or more additional series:

- there shall be no minimum quorum requirement for such meeting; and

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- the principal amount of the outstanding debt securities of such series that vote in favor of such request, demand, authorization, direction, notice, consent, waiver or other action shall be taken account in determining whether such request, demand, authorization, direction, notice, consent, waiver or other action has been made, given or taken under such indenture.

### Subordination

Unless otherwise provided in the applicable prospectus supplement, subordinated securities will be subject to the following subordination provisions.

Upon any distribution to our creditors in a liquidation, dissolution or reorganization, the payment of the principal of and interest on any subordinated securities will be subordinated to the extent provided in the applicable indenture in right of payment to the prior payment in full of all senior debt. However, our obligation to make payments of the principal of and interest on such subordinated securities otherwise will not be affected. No payment of principal or interest will be permitted to be made on subordinated securities at any time if a default on senior debt exists that permits the holders of such senior debt to accelerate its maturity and the default is the subject of judicial proceedings or we receive notice of the default. After all senior debt is paid in full and until the subordinated securities are paid in full, holders of subordinated securities will be subrogated to the rights of holders of senior debt to the extent that distributions otherwise payable to holders of subordinated securities have been applied to the payment of senior debt. The subordinated indenture will not restrict the amount of senior debt or other indebtedness of Anthera and its subsidiaries. As a result of these subordination provisions, in the event of a distribution of assets upon insolvency, holders of subordinated securities may recover less, ratably, than our general creditors.

The term “senior debt” will be defined in the applicable indenture as the principal of and interest on, or substantially similar payments to be made by us in respect of, other outstanding indebtedness, whether outstanding at the date of execution of the applicable indenture or subsequently incurred, created or assumed. The prospectus supplement may include a description of additional terms implementing the subordination feature.

No restrictions will be included in any indenture relating to subordinated securities upon the creation of additional senior debt.

If this prospectus is being delivered in connection with the offering of a series of subordinated securities, the accompanying prospectus supplement or the information incorporated in this prospectus by reference will set forth the approximate amount of senior debt outstanding as of the end of our most recent fiscal quarter.

### Discharge, Defeasance and Covenant Defeasance

Unless otherwise indicated in the applicable prospectus supplement, the indentures allow us to discharge our obligations to holders of any series of debt securities issued under any indenture when:

- either (1) all securities of such series have already been delivered to the applicable trustee for cancellation; or (2) all securities of such series have not already been delivered to the applicable trustee for cancellation but (A) have become due and payable, (B) will become due and payable within one year, or (C) if redeemable at our option, are to be redeemed within one year, and we have irrevocably deposited with the applicable trustee, in trust, funds in such currency or currencies, currency unit or units or composite currency or currencies in which such debt securities are payable, an amount sufficient to pay the entire indebtedness on such debt securities in respect of principal and any premium, or make-whole amount, and interest to the date of such deposit if such debt securities have become due and payable or, if they have not, to the stated maturity or redemption date;

- we have paid or caused to be paid all other sums payable; and
- an officers' certificate and an opinion of counsel stating the conditions to discharging the debt securities have been satisfied has been delivered to the trustee.

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Unless otherwise indicated in the applicable prospectus supplement, the indentures provide that, upon our irrevocable deposit with the applicable trustee, in trust, of an amount, in such currency or currencies, currency unit or units or composite currency or currencies in which such debt securities are payable at stated maturity, or government obligations, or both, applicable to such debt securities, which through the scheduled payment of principal and interest in accordance with their terms will provide money in an amount sufficient to pay the principal of, and any premium, or make-whole amount, and interest on, such debt securities, and any mandatory sinking fund or analogous payments thereon, on the scheduled due dates therefor, the issuing company may elect either:

- to defease and be discharged from any and all obligations with respect to such debt securities; or
- to be released from its obligations with respect to such debt securities under the applicable indenture or, if provided in the applicable prospectus supplement, its obligations with respect to any other covenant, and any omission to comply with such obligations shall not constitute an event of default with respect to such debt securities.

Notwithstanding the above, we may not elect to defease and be discharged from the obligation to pay any additional amounts upon the occurrence of particular events of tax, assessment or governmental charge with respect to payments on such debt securities and the obligations to register the transfer or exchange of such debt securities, to replace temporary or mutilated, destroyed, lost or stolen debt securities, to maintain an office or agency in respect of such debt securities, or to hold monies for payment in trust.

The indentures only permit us to establish the trust described in the paragraph above if, among other things, it has delivered to the applicable trustee an opinion of counsel to the effect that the holders of such debt securities will not recognize income, gain or loss for United States federal income tax purposes as a result of such defeasance or covenant defeasance and will be subject to United States federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such defeasance or covenant defeasance had not occurred. Such opinion of counsel, in the case of defeasance, will be required to refer to and be based upon a ruling received from or published by the Internal Revenue Service or a change in applicable United States federal income tax law occurring after the date of the indenture. In the event of such defeasance, the holders of such debt securities would be able to look only to such trust fund for payment of principal, any premium, or make-whole amount, and interest.

When we use the term “government obligations,” we mean securities that are:

- direct obligations of the United States or the government that issued the foreign currency in which the debt securities of a particular series are payable, for the payment of which its full faith and credit is pledged; or
- obligations of a person controlled or supervised by and acting as an agency or instrumentality of the United States or other government that issued the foreign currency in which the debt securities of such series are payable, the payment of which is unconditionally guaranteed as a full faith and credit obligation by the United States or such other government, which are not callable or redeemable at the option of the issuer thereof and shall also include a depository receipt issued by a bank or trust company as custodian with respect to any such government obligation or a specific payment of interest on or principal of any such government obligation held by such custodian for the account of the holder of a depository receipt. However, except as required by law, such custodian is not authorized to make any deduction from the amount payable to the holder of such depository receipt from any amount received by the custodian in respect of the government obligation or the specific payment of interest on or principal of the government obligation evidenced by such depository receipt.

Unless otherwise provided in the applicable prospectus supplement, if after we have deposited funds and/or government obligations to effect defeasance or covenant defeasance with respect to debt securities of any series, (1) the holder of a debt security of such series is entitled to, and does, elect under the terms of the applicable indenture

or the terms of such debt security to receive payment in a currency, currency unit or composite currency other than that in which such deposit has been made in respect of such debt security, or (2) a conversion event occurs in respect of the currency, currency unit or composite currency in which such deposit has been made, the indebtedness represented by such debt security will be deemed to have been, and will be, fully discharged and satisfied through the payment of the principal of, and premium, or make-whole amount, and interest on, such debt security as they become due out of the proceeds yielded by converting the amount so deposited in respect of such debt security into the currency, currency unit or composite currency in which such debt security becomes payable as a result of such election or such cessation of usage based on the applicable market exchange rate.



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When we use the term “conversion event,” we mean the cessation of use of:

- a currency, currency unit or composite currency both by the government of the country that issued such currency and for the settlement of transactions by a central bank or other public institutions of or within the international banking community;
- the European Currency Unit both within the European Monetary System and for the settlement of transactions by public institutions of or within the European Communities; or
- any currency unit or composite currency other than the European Currency Unit for the purposes for which it was established.

Unless otherwise provided in the applicable prospectus supplement, all payments of principal of, and any premium, or make-whole amount, and interest on, any debt security that is payable in a foreign currency that ceases to be used by its government of issuance shall be made in United States dollars.

In the event that (1) we effect covenant defeasance with respect to any debt securities and (2) those debt securities are declared due and payable because of the occurrence of any event of default, the amount in the currency, currency unit or composite currency in which such debt securities are payable, and government obligations on deposit with the applicable trustee, will be sufficient to pay amounts due on such debt securities at the time of their stated maturity but may not be sufficient to pay amounts due on such debt securities at the time of the acceleration resulting from such event of default. However, the issuing company would remain liable to make payments of any amounts due at the time of acceleration.

If a trustee or paying agent is unable to apply any money in accordance with the foregoing paragraphs describing discharge and defeasance by reason of any order or judgment of any court or governmental authority enjoining, restraining or otherwise prohibiting such application, then the obligations under the indentures and such securities from which Anthera has been discharged or released pursuant to the foregoing shall be revived and reinstated as though no deposit had occurred with respect to such securities, until such time as the trustee or paying agent is permitted to apply all money held in trust with respect to such securities in accordance with the foregoing; provided, that if Anthera makes any payment of principal of or any premium or interest on any such security following such reinstatement of its obligations, Anthera shall be subrogated to the rights (if any) of the holders of such securities to receive such payment from the money so held in trust.

The applicable prospectus supplement may further describe the provisions, if any, permitting such defeasance or covenant defeasance, including any modifications to the provisions described above, with respect to the debt securities of or within a particular series.

## Conversion Rights

The terms and conditions, if any, upon which the debt securities are convertible into common stock or preferred stock will be set forth in the applicable prospectus supplement. The terms will include whether the debt securities are convertible into shares of common stock or preferred stock, the conversion price, or manner of calculation thereof, the conversion period, provisions as to whether conversion will be at the issuing company’s option or the option of the holders, the events requiring an adjustment of the conversion price and provisions affecting conversion in the event of the redemption of the debt securities and any restrictions on conversion.

## Global Securities

The debt securities of a series may be issued in whole or in part in the form of one or more global securities that will be deposited with, or on behalf of, a depository identified in the applicable prospectus supplement relating to such series. Global securities, if any, issued in the United States are expected to be deposited with The Depository Trust Company, or DTC, as depository. We may issue global securities in either registered or bearer form and in either temporary or permanent form. We will describe the specific terms of the depository arrangement with respect to a series of debt securities in the applicable prospectus supplement relating to such series. We expect that unless the applicable prospectus supplement provides otherwise, the following provisions will apply to depository arrangements.

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Once a global security is issued, the depository for such global security or its nominee will credit on its book-entry registration and transfer system the respective principal amounts of the individual debt securities represented by such global security to the accounts of participants that have accounts with such depository. Such accounts shall be designated by the underwriters, dealers or agents with respect to such debt securities or by us if we offer such debt securities directly. Ownership of beneficial interests in such global security will be limited to participants with the depository or persons that may hold interests through those participants.

We expect that, under procedures established by DTC, ownership of beneficial interests in any global security for which DTC is the depository will be shown on, and the transfer of that ownership will be effected only through, records maintained by DTC or its nominee, with respect to beneficial interests of participants with the depository, and records of participants, with respect to beneficial interests of persons who hold through participants with the depository. Neither we nor the trustee will have any responsibility or liability for any aspect of the records of DTC or for maintaining, supervising or reviewing any records of DTC or any of its participants relating to beneficial ownership interests in the debt securities. The laws of some states require that certain purchasers of securities take physical delivery of such securities in definitive form. Such limits and laws may impair the ability to own, pledge or transfer beneficial interest in a global security.

So long as the depository for a global security or its nominee is the registered owner of such global security, such depository or such nominee, as the case may be, will be considered the sole owner or holder of the debt securities represented by the global security for all purposes under the applicable indenture. Except as described below or in the applicable prospectus supplement, owners of beneficial interest in a global security will not be entitled to have any of the individual debt securities represented by such global security registered in their names, will not receive or be entitled to receive physical delivery of any such debt securities in definitive form and will not be considered the owners or holders thereof under the applicable indenture. Beneficial owners of debt securities evidenced by a global security will not be considered the owners or holders thereof under the applicable indenture for any purpose, including with respect to the giving of any direction, instructions or approvals to the trustee under the indenture. Accordingly, each person owning a beneficial interest in a global security with respect to which DTC is the depository must rely on the procedures of DTC and, if such person is not a participant with the depository, on the procedures of the participant through which such person owns its interests, to exercise any rights of a holder under the applicable indenture. We understand that, under existing industry practice, if DTC requests any action of holders or if an owner of a beneficial interest in a global security desires to give or take any action which a holder is entitled to give or take under the applicable indenture, DTC would authorize the participants holding the relevant beneficial interest to give or take such action, and such participants would authorize beneficial owners through such participants to give or take such actions or would otherwise act upon the instructions of beneficial owners holding through them.

Payments of principal of, and any premium, or make-whole amount, and interest on, individual debt securities represented by a global security registered in the name of a depository or its nominee will be made to or at the direction of the depository or its nominee, as the case may be, as the registered owner of the global security under the applicable indenture. Under the terms of the applicable indenture, we and the trustee may treat the persons in whose name debt securities, including a global security, are registered as the owners thereof for the purpose of receiving such payments. Consequently, neither we nor the trustee have or will have any responsibility or liability for the payment of such amounts to beneficial owners of debt securities including principal, any premium, or make-whole amount, or interest. We believe, however, that it is currently the policy of DTC to immediately credit the accounts of relevant participants with such payments, in amounts proportionate to their respective holdings of beneficial interests in the relevant global security as shown on the records of DTC or its nominee. We also expect that payments by participants to owners of beneficial interests in such global security held through such participants will be governed by standing instructions and customary practices, as is the case with securities held for the account of customers in bearer form or registered in street name, and will be the responsibility of such participants. Redemption notices with respect to any debt securities represented by a global security will be sent to the depository or its nominee. If less than all of the debt

securities of any series are to be redeemed, we expect the depository to determine the amount of the interest of each participant in such debt securities to be redeemed to be determined by lot. Neither we, the trustee, any paying agent nor the security registrar for such debt securities will have any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial ownership interests in the global security for such debt securities or for maintaining any records with respect thereto.

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Neither we nor the trustee will be liable for any delay by the holders of a global security or the depository in identifying the beneficial owners of debt securities, and we and the trustee may conclusively rely on, and will be protected in relying on, instructions from the holder of a global security or the depository for all purposes. The rules applicable to DTC and its participants are on file with the SEC.

If a depository for any debt securities is at any time unwilling, unable or ineligible to continue as depository and we do not appoint a successor depository within 90 days, we will issue individual debt securities in exchange for the global security representing such debt securities. In addition, we may at any time and in their sole discretion, subject to any limitations described in the applicable prospectus supplement relating to such debt securities, determine not to have any of such debt securities represented by one or more global securities and in such event will issue individual debt securities in exchange for the global security or securities representing such debt securities. Individual debt securities so issued will be issued in denominations of \$1,000 and integral multiples of \$1,000.

The debt securities of a series may also be issued in whole or in part in the form of one or more bearer global securities that will be deposited with a depository, or with a nominee for such depository, identified in the applicable prospectus supplement. Any such bearer global securities may be issued in temporary or permanent form. The specific terms and procedures, including the specific terms of the depository arrangement, with respect to any portion of a series of debt securities to be represented by one or more bearer global securities will be described in the applicable prospectus supplement.

### No Recourse

There is no recourse under any obligation, covenant or agreement in the applicable indenture or with respect to any security against any of our or our successor's past, present or future stockholders, employees, officers or directors.

### 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.

We may issue warrants for the purchase of common stock, preferred stock and/or debt securities in one or more series. We may issue warrants independently or together with common stock, preferred stock and/or debt securities, 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;

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- in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at, and currency in which, this principal amount of debt securities may be purchased upon such exercise;
- 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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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.

RATIO OF EARNINGS TO FIXED CHARGES

If we offer debt securities and/or preference equity securities under this prospectus, then we will, if required at that time, provide a ratio of earnings to fixed charges and/or ratio of combined fixed charges and preference dividends to earnings, respectively, for each of the last five fiscal years and any required interim periods will be specified in the applicable prospectus supplement for such offering.

PLAN OF DISTRIBUTION

We may sell the securities covered by this prospectus from time to time in one or more offerings. Registration of the securities covered by this prospectus does not mean, however, that those securities will necessarily be offered or sold.

We may sell the securities separately or together:

- through one or more underwriters or dealers in a public offering and sale by them;
  - directly to investors; or
  - through agents.

We may sell the securities 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 times of sale;
  - at prices related to such prevailing market prices; or
  - at negotiated prices.

We will describe the method of distribution of the securities and the terms of the offering in the prospectus supplement.



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;

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- 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.

Any discounts or concessions allowed or re-allowed or paid to dealers may be changed from time to time.

If underwriters are used in the sale of any securities, the securities will be acquired by the underwriters for their own account and may be resold from time to time in one or more transactions described above. The securities may be either offered to the public through underwriting syndicates represented by managing underwriters, or directly by underwriters. Generally, the underwriters' obligations to purchase the securities will be subject to conditions precedent and the underwriters will be obligated to purchase all of the securities if they purchase any of the securities. We may use underwriters with whom we have a material relationship.

We may authorize underwriters, dealers or agents to solicit offers by certain purchasers to purchase the securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. The contracts will be subject only to those conditions set forth in the prospectus supplement, and the prospectus supplement will set forth any commissions we pay for solicitation of these contracts.

Any public offering price and any discounts or concessions allowed or reallocated or paid to dealers may be changed from time to time. Pursuant to a requirement by the Financial Industry Regulatory Authority, or FINRA, the maximum commission or discount to be received by any FINRA member or independent broker/dealer may not be greater than 8% of the gross proceeds received by us for the sale of any securities being registered pursuant to SEC Rule 415 under the Securities Act.

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 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 will be identified in the applicable prospectus supplement or in a post-effective amendment.

Underwriters, dealers and agents may be entitled to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments made by the underwriters, dealers or agents, under agreements between us and the underwriters, dealers and agents.

We may grant underwriters who participate in the distribution of securities an option to purchase additional securities to cover over-allotments, if any, in connection with the distribution.

Underwriters, dealers or agents may receive compensation in the form of discounts, concessions or commissions from us or our purchasers, as their agents in connection with the sale of securities. These underwriters, dealers or agents may be considered to be underwriters under the Securities Act. As a result, discounts, commissions or profits on resale received by the underwriters, dealers or agents may be treated as underwriting discounts and commissions. The prospectus supplement will identify any such underwriter, dealer or agent and describe any compensation received by them from us. Any initial public offering price and any discounts or concessions allowed or re-allowed or paid to

dealers may be changed from time to time.

Unless otherwise specified in the related prospectus supplement, all securities we offer, other than common stock, will be new issues of securities with no established trading market. Any underwriters may make a market in these securities, but will not be obligated to do so and may discontinue any market making at any time without notice. Any common stock sold pursuant to a prospectus supplement will be listed for trading on the NASDAQ Stock Market or other principal market for our common stock. We may apply to list any series of debt securities, preferred stock or warrants on an exchange, but we are not obligated to do so. Therefore, there may not be liquidity or a trading market for any series of securities.

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Any underwriter may engage in over-allotment transactions, stabilizing transactions, short-covering transactions and penalty bids in accordance with Regulation M under the Exchange Act. Over-allotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short covering transactions involve purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time. We make no representation or prediction as to the direction or magnitude of any effect that such transactions may have on the price of the securities. For a description of these activities, see the information under the heading “Underwriting” or “Plan of Distribution” in the applicable prospectus supplement.

Underwriters, broker-dealers or agents who may become involved in the sale of the common stock may engage in transactions with and perform other services for us in the ordinary course of their business for which they receive compensation.

## DILUTION

We will set forth in a prospectus supplement, when applicable, the following information regarding any material dilution of the equity interests of investors purchasing securities in an offering under this prospectus:

- the net tangible book value per share of our equity securities before and after the offering;
- the amount of the increase in such net tangible book value per share attributable to the cash payments made by purchasers in the offering; and
- the amount of the immediate dilution from the public offering price which will be absorbed by such purchasers.

## LEGAL MATTERS

The legality of the issuance of the securities being offered hereby and the binding nature of any debt securities or warrants being offered hereby is being passed upon by Goodwin Procter LLP, San Francisco, California.

## EXPERTS

The financial statements as of December 31, 2015 and 2014 and for each of the three years in the period ended December 31, 2015 and management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2015 incorporated by reference in this Prospectus have been so incorporated in reliance on the reports of BDO USA, LLP, an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

## INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference into this prospectus the information contained in other documents we file with the SEC, which means that we can disclose important information to you by referring you to those documents. Any statement contained in any document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded, for purposes of this prospectus, to the extent that a statement contained in or omitted from this prospectus, or in any other subsequently filed document that also is or is deemed to be incorporated by reference herein, modifies or supersedes such statement. Any such statement so modified or

superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus. We incorporate by reference the documents listed below which have been filed by us:

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1. Our Annual Report on Form 10-K for the year ended December 31, 2015;
2. The information specifically incorporated by reference in our Form 10-K from our Definitive Proxy Statement on Schedule 14A filed on April 9, 2015; and
3. Our Current Reports on Form 8-K filed with the SEC on January 8, 2016 (with respect to Item 5.02 only), January 29, 2016, February 17, 2016 and March 8, 2016 (with respect to Item 5.02 only).

All documents we file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, except as to any portion of any report or documents that is not deemed filed under such provisions, (1) on or after the date of filing of the registration statement containing this prospectus and prior to the effectiveness of the registration statement and (2) on or after the date of this prospectus until the earlier of the date on which all of the securities registered hereunder have been sold or the registration statement of which this prospectus is a part has been withdrawn, shall be deemed incorporated by reference in this prospectus and to be a part of this prospectus from the date of filing of those documents.

We will provide, without charge, to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, upon such person's written or oral request, a copy of any and all of the information incorporated by reference in this prospectus, other than exhibits to such documents, unless such exhibits are specifically incorporated by reference into the information that this prospectus incorporates. Requests should be directed to the Corporate Secretary, Anthera Pharmaceuticals, Inc., 25801 Industrial Boulevard, Suite B, Hayward, California 94545; telephone: (510) 856-5600. We have authorized no one to provide you with any information that differs from that contained in this prospectus. Accordingly, you should not rely on any information that is not contained in this prospectus. You should not assume that the information in this prospectus is accurate as of any date other than the date of the front cover of this prospectus.

WHERE YOU CAN FIND MORE INFORMATION

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

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

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\$25,000,000

Common Stock

PROSPECTUS SUPPLEMENT

H.C. Wainwright & Co.

April 21, 2016

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