

Ardea Biosciences, Inc./DE
Form 424B3
June 05, 2009

Table of Contents

This filing is made pursuant
to Rule 424(b)(3) under
the Securities Act of
1933 in connection with
Registration No. 333-159279

PROSPECTUS

\$75,000,000

Ardea Biosciences, Inc.

Common Stock

Our common stock is listed on The NASDAQ Global Market under the symbol RDEA. On June 4, 2009, the last reported sale price of our common stock on The NASDAQ Global Market was \$15.55 per share.

From time to time, we may sell shares of our common stock in one or more offerings in amounts, at prices and on the terms that we will determine at the time of the offering, with an aggregate initial offering price of up to \$75 million. Each time we offer shares, we will provide you with a supplement to this prospectus. You should read this prospectus, the information incorporated by reference in this prospectus and any prospectus supplement carefully before you invest.

Investing in our common stock involves a high degree of risk. See Risk Factors on page 4 of this prospectus and as updated in our future filings made with the Securities and Exchange Commission, or the SEC, which are incorporated by reference in this prospectus.

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

The securities may be sold by us to or through underwriters or dealers, directly to purchasers or through agents designated from time to time. For additional information on the methods of sale, you should refer to the section entitled Plan of Distribution in this prospectus. If any underwriters are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such underwriters and any applicable discounts or commissions and over-allotment options will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement.

Neither the SEC 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 June 5, 2009.

TABLE OF CONTENTS

<u>About This Prospectus</u>	i
<u>Summary</u>	1
<u>Risk Factors</u>	4
<u>Forward-Looking Statements</u>	4
<u>Use of Proceeds</u>	5
<u>Plan of Distribution</u>	5
<u>Legal Matters</u>	6
<u>Experts</u>	6
<u>Where You Can Find More Information</u>	6
<u>Incorporation of Certain Information by Reference</u>	7

You should rely only on the information contained in or incorporated by reference into this prospectus or any applicable prospectus supplement. We have not authorized anyone to provide you with different information. We are not making an offer to sell or seeking an offer to buy shares of our common stock under this prospectus or any applicable prospectus supplement in any jurisdiction where the offer or sale is not permitted. The information contained in this prospectus, any applicable prospectus supplement and the documents incorporated by reference herein and therein are accurate only as of their respective dates, regardless of the time of delivery of this prospectus or any sale of a security.

About This Prospectus

This prospectus is part of a registration statement that we filed with the SEC using a shelf registration process. Under this shelf registration statement, we may sell common stock in one or more offerings up to a total dollar amount of \$75 million. Each time we sell any of our common stock under this prospectus, we will provide a prospectus supplement that will contain more specific information about the terms of that offering. We may also add, update or change in a prospectus supplement any of the information contained in this prospectus or in documents we have incorporated by reference into this prospectus. This prospectus, together with any applicable prospectus supplement and the documents incorporated by reference into this prospectus, include all material information relating to this offering. You should carefully read both this prospectus and any applicable prospectus supplement together with the additional information described under **Where You Can Find More Information** before buying common stock in this offering.

Table of Contents**SUMMARY**

To understand this offering fully and for a more complete description of the legal terms of this offering as well as our company and the common stock being sold in this offering, you should read carefully the entire prospectus, the prospectus supplement and the other documents to which we may refer you, including Risk Factors and our consolidated financial statements and notes to those statements incorporated by reference in this prospectus. Reference to we, us, our, our company, the Company, and RDEA refers to Ardea Biosciences, Inc. and its subsidiary, unless the context requires otherwise.

ARDEA BIOSCIENCES, INC.**Overview and Business Strategy**

Ardea Biosciences, Inc., of San Diego, California, is a biotechnology company focused on the discovery and development of small-molecule therapeutics for the treatment of gout, human immunodeficiency virus (HIV), cancer and inflammatory diseases. We are currently pursuing multiple development programs, including the following:

Product Portfolio

Product Candidate	Target Indication	Development Status
RDEA594	Gout	Phase 2 initiating
RDEA806	HIV	Phase 2a completed
RDEA427	HIV	Phase 0* completed
RDEA119	Cancer	Phase 1 and Phase 1/2 ongoing
RDEA119	Inflammation	Phase 1 completed
RDEA436	Inflammation	Phase 0* completed

* First-in-human micro-dose pharmacokinetic study in normal healthy volunteers.

GOUT**RDEA594**

RDEA594 is an inhibitor of URAT1, a transporter in the kidney that regulates uric acid excretion from the body. RDEA594 was well tolerated in Phase 1 studies in normal healthy volunteers and demonstrated significant dose-related decreases in serum uric acid of up to 30% over the first 24 hours after administration of single-ascending doses and up to 45% after 10 days of administration of multiple doses. We plan to complete a number of additional studies by the end of 2009, including a Phase 2 dose-ranging study of RDEA594 in gout patients. The uric acid-lowering activity of RDEA594, when administered as its prodrug, RDEA806, has also been demonstrated in a recently completed

Phase 2a proof-of-concept study of RDEA806 in gout patients. All of our future studies in gout will be conducted directly with RDEA594.

HIV**RDEA806**

RDEA806 is our lead non-nucleoside reverse transcriptase inhibitor, or NNRTI, for the treatment of HIV. *In vitro* preclinical tests have shown RDEA806 to be a potent inhibitor of a wide range of HIV viral isolates, including isolates that are resistant to efavirenz (SUSTIVA^(R)/Stocrin^(R) from Bristol-Myers Squibb Company and Merck & Co., Inc.), the most widely prescribed NNRTI, in addition to other currently available NNRTIs. *In vitro* preclinical tests have also shown RDEA806 to have a high genetic barrier to resistance. *In vivo* preclinical tests suggest that RDEA806 does not pose a risk of reproductive toxicity. Based on both preclinical and clinical data, we anticipate that RDEA806 could be amenable to a once-daily

oral dosing regimen, may have limited pharmacokinetic interactions with other drugs and may be readily co-formulated in a single pill with other HIV antiviral drugs, such as Truvada^(R) (emtricitabine and tenofovir from Gilead Sciences, Inc.), which is important for patient compliance and efficacy.

RDEA806 has successfully completed Phase 1 and Phase 2a studies and has been evaluated in over 250 subjects. Results from a Phase 2a monotherapy proof-of-concept study of RDEA806 demonstrated placebo-adjusted plasma viral load reductions of up to 2.0 log₁₀ on day 8 with once-daily dosing of RDEA806. In addition, all dosing regimens tested were well tolerated. We have

Table of Contents

continued preparing RDEA806 for further clinical development by obtaining additional regulatory approvals to conduct an international Phase 2b HIV trial and by completing a number of important preparatory safety and supportive toxicology studies, including a Thorough QT study. Results from the Thorough QT study demonstrated that QTc intervals were not increased by any dose of RDEA806 tested. In addition, the study provided information on the lack of pharmacokinetic differences between Caucasians and African-Americans. These results provide further support for RDEA806's cardiac safety profile, as well as its potential to improve current standard-of-care therapy by decreasing the documented increased side effects of efavirenz in African-Americans believed to result from ethnicity-based differences in metabolism. We anticipate that the timing of future studies of RDEA806 will be determined in part by the results of our partnering efforts.

RDEA427

The lead compound in our next generation NNRTI program, RDEA427, is from a chemical class that is distinct from the RDEA806 chemical class. Based on early preclinical data, we believe that RDEA427 may share certain of the positive attributes of RDEA806, but may also have even greater activity against a wide range of drug-resistant viral isolates. We have evaluated RDEA427 in a human micro-dose pharmacokinetic study. We anticipate that the timing of future studies of RDEA427 will be determined in part by the results of our partnering efforts.

CANCER

RDEA119

RDEA119, our lead mitogen-activated ERK kinase, or MEK, inhibitor for the treatment of cancer, is a potent and selective inhibitor of MEK, which is believed to play an important role in cancer cell proliferation, apoptosis and metastasis. *In vivo* preclinical tests have shown RDEA119 to have potent anti-tumor activity.

Data from an ongoing Phase 1 study of RDEA119 in advanced cancer patients suggest that RDEA119 has a pharmacokinetic profile allowing for convenient once-daily oral dosing. In addition, preclinical *in vitro* and *in vivo* studies of RDEA119 have demonstrated synergistic activity across multiple tumor types when RDEA119 is used in combination with other anti-cancer agents, including sorafenib (Nexavar^(R) from Bayer HealthCare AG (Bayer) and Onyx Pharmaceuticals, Inc.). We are currently conducting a Phase 1/2 study of RDEA119 in combination with sorafenib in advanced cancer patients to evaluate the safety, tolerability, pharmacokinetics and anti-tumor activity of this combination therapy.

Under our Development and License Agreement (the License Agreement) with Bayer, we are responsible for the completion of the Phase 1 and Phase 1/2 studies currently being conducted for RDEA119. Thereafter, Bayer will be responsible for the further development and commercialization of RDEA119 and any of our other MEK inhibitors.

INFLAMMATION

RDEA119

In vivo preclinical tests have also shown RDEA119 to significantly inhibit production of inflammatory cytokines. Results from a completed Phase 1 study in normal healthy volunteers demonstrated that RDEA119 was well tolerated with a pharmacokinetic profile allowing for convenient once-daily oral dosing. The timing of future studies of RDEA119 in inflammatory diseases, if any, will be determined by Bayer pursuant to the License Agreement.

RDEA436

The lead compound in our next generation MEK inhibitor program, RDEA436, is from a chemical class that is distinct from the RDEA119 chemical class. Based on early preclinical data, we believe that RDEA436 may potentially share certain of the positive attributes of RDEA119, and may have even greater potency than RDEA119. We have evaluated RDEA436 in a human micro-dose pharmacokinetic study. We received regulatory approval in December 2008 to initiate a Phase 1 study of RDEA436 evaluating safety, pharmacokinetics and inflammatory disease biomarkers in normal healthy volunteers. The timing of future studies of RDEA436 in inflammatory diseases, if any, will be determined by Bayer pursuant to the License Agreement.

Table of Contents

Market Opportunity

We believe that there is a significant market opportunity for our products, should they be successfully developed, approved and commercialized.

We believe that there is a significant need for new products for the treatment and prevention of gout, a painful and debilitating disease caused by abnormally elevated levels of uric acid. There has been only one new drug approved in the United States for the treatment of gout in the last 40 years. According to the National Arthritis Data Workgroup, an estimated 6.1 million adults in the United States in 2005 had experienced at least one episode of gout. The incidence and severity of gout is increasing in the United States. According to the Annals of Rheumatic Diseases there was a 288% increase in gout-related hospitalizations from 1988-2005 and over \$11.2 billion in gout-related hospital costs were incurred in 2005 in the United States. In addition, according to a 2008 Nerac Inc. survey, approximately 5.0 million patients in the European Union suffer from gout. Many chronic gout sufferers are unable to achieve target reductions in uric acid with current treatments. Approximately 80% to 90% of gout patients are under excretors of uric acid. Scientists have recently discovered defects in multiple transporters in the kidney that play important roles in uric acid transport and are genetically linked to a higher risk of gout. URAT1 has been identified as the most important transporter for uric acid. We are developing products for the treatment of hyperuricemia and gout that inhibit URAT1, thereby increasing the excretion of uric acid and lowering serum uric acid levels. In addition, we believe there may be opportunities to develop uric acid-lowering agents to treat diseases other than gout. Evidence suggests that the chronic elevation of uric acid associated with gout, known as hyperuricemia, may also have systemic consequences, including an increased risk for kidney dysfunction, elevated CRP, hypertension and possibly other cardiovascular risk factors.

In 2007, sales of HIV antivirals in the seven major drug markets (the United States, Japan, France, Germany, Italy, Spain and the United Kingdom) were approximately \$9.3 billion and are expected to reach \$15.1 billion in 2017, according to Datamonitor. While the treatment of HIV has improved dramatically over the past decade, we believe that there remains a significant need for new treatments that are effective against drug-resistant virus, safer for women and African-Americans, well tolerated and convenient to take. According to the Centers for Disease Control and Prevention (CDC), 56,300 people were newly infected with HIV in 2006, 40% more than estimated previously. African-Americans accounted for more than 45% of the new infections. Women account for 27% of the new infections. We are developing products for the treatment of HIV that are highly active against resistant strains, have a high genetic barrier to resistance, have a better safety profile than current drugs in African-Americans and women, can be taken once a day, and are easy to formulate in a combination pill with current drugs.

We also believe that there is growing interest in the potential for targeted therapies, including kinase inhibitors, for the treatment of both cancer and inflammatory disease. Sales of products used in the treatment of cancer were expected to exceed \$45.0 billion in 2008, according to IMS Health Incorporated, fueled by strong acceptance of innovative and effective targeted therapies. The failure rate of kinase inhibitor compounds in clinical development in oncology is only 53% versus 82% in the oncology field as a whole. In 2007, the worldwide market for targeted therapies for inflammatory diseases was more than \$8.6 billion. Given the role that MEK appears to play in cancer and inflammatory diseases and the increasing preference for oral therapies, we believe that RDEA119 and our next generation MEK inhibitors, if successfully developed, approved and commercialized, could participate in these growing markets.

Bayer Relationship

On April 28, 2009, we entered into the License Agreement with Bayer to develop and commercialize small-molecule mitogen-activated ERK kinase inhibitors for the treatment of cancer. Under the terms of the License Agreement, we granted to Bayer a worldwide, exclusive license to develop and commercialize our MEK inhibitors for all indications. Our lead product candidate from this program, RDEA119, is currently being evaluated both as a single agent and in combination with sorafenib in advanced cancer patients. Bayer has agreed to pay us a non-refundable, upfront license fee of \$35 million for the development and commercialization rights to our MEK inhibitors. Potential payments under the License Agreement could total up to \$407 million, not including royalties. We will also be eligible to receive low double-digit royalties on worldwide sales of products under the License Agreement.

Valeant Relationship

On December 21, 2006, we acquired intellectual property and other assets from Valeant Research & Development, Inc. related to RDEA806 and our next generation NNRTI program, and RDEA119 and our next generation MEK inhibitor program. Concurrent with the closing of the acquisition from Valeant, we hired a new senior management team and changed our name from IntraBiotics Pharmaceuticals, Inc. to Ardea Biosciences, Inc.

In consideration for the assets purchased from Valeant and subject to the satisfaction of certain conditions, Valeant has the right to receive development-based milestone payments and sales-based royalty payments from us. There is one set of milestones for RDEA806 and the next generation NNRTI program and a separate set of milestones for RDEA119 and the next generation MEK inhibitor program. In the event of the successful commercialization of a product incorporating RDEA806 or a compound from the next generation NNRTI program, resulting milestone payments could total up to \$25.0 million. In the event of the successful commercialization of a product incorporating RDEA119 or a compound from the next generation MEK inhibitor program, resulting milestone payments could total up to \$17.0 million. Milestones are paid only once for each program, regardless of how many compounds are developed or commercialized. The first milestone payments of \$2.0 million and \$1.0 million in the NNRTI program and the MEK inhibitor program, respectively, would be due after the first patient is dosed in the first Phase 2b study, and approximately 80% of the total milestone payments in each program would be due upon United States Food and Drug Administration acceptance and approval of a New Drug Application, or NDA. The royalty rates on all products are in the mid-single digits. We agreed to further develop these compounds with the objective of obtaining marketing approval in the United States, the United Kingdom, France, Spain, Italy and Germany.

Table of Contents

Valeant also has the right to exercise a one-time option to repurchase commercialization rights in territories outside the United States and Canada (the "Valeant Territories") to the first NNRTI compound derived from the acquired intellectual property to complete a Phase 2b study in HIV. If Valeant exercises this option, which it can do following the completion of a Phase 2b HIV study, but prior to the initiation of a Phase 3 study, we would be responsible for completing Phase 3 studies and for registration of the product in the United States and the European Union. Valeant would pay us a \$10.0 million option fee, up to \$21.0 million in milestone payments based on regulatory approvals, and a mid-single-digit royalty on product sales in the Valeant Territories.

We were incorporated in the State of Delaware in January 1994. Our corporate offices are located at 4939 Directors Place, San Diego, CA 92121. Our telephone number is (858) 652-6500. Our website address is www.ardeabio.com. We make available free of charge through our Internet website our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Information contained on our website, unless specifically referenced herein, does not constitute part of this prospectus or any prospectus supplement.

RISK FACTORS

An investment in our common stock involves a high degree of risk. Before you make a decision to invest in our common stock, you should consider carefully the risks described in the section entitled "Risk Factors" contained in our Annual Report on Form 10-K for the fiscal year ended December 31, 2008, as filed with the SEC on March 13, 2009, which is incorporated herein by reference in its entirety, as well as any amendment or update thereto reflected in subsequent filings with the SEC and any information in this prospectus or any accompanying prospectus supplement. If any of these risks actually occur, our business, operating results, prospects or financial condition could be materially and adversely affected. This could cause the trading price of our common stock to decline and you may lose part or all of your investment. Moreover, the risks described are not the only ones that we face. Additional risks not presently known to us or that we currently deem immaterial may also affect our business, operating results, prospects or financial condition.

FORWARD-LOOKING STATEMENTS

This prospectus, the documents that we incorporate by reference herein and the applicable prospectus supplement contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Exchange Act. Any statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and may be forward-looking. These statements are often, but not always, made through the use of words or phrases such as anticipate, estimate, plan, project, continuing, ongoing, goal, expect, management believes, we believe, we intend and similar words or phrases. Accordingly, these statements involve estimates, assumptions and uncertainties that could cause actual results to differ materially from those expressed in them. Any forward-looking statements are qualified in their entirety by reference to the factors discussed in this prospectus, in the applicable prospectus supplement or incorporated by reference.

Because the factors discussed in this prospectus, incorporated by reference herein or discussed in the applicable prospectus supplement, and even factors of which we are not yet aware, could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by or on behalf of us, you should not place undue reliance on any such forward-looking statements. These statements are subject to risks and uncertainties, known and unknown, which could cause actual results and developments to differ materially from those expressed or implied in such statements. We have included important factors in the cautionary statements included in this prospectus, in the applicable prospectus supplement, particularly under the heading "RISK FACTORS," and in our SEC filings that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. These and other risks are also detailed in our reports filed from time to time under the Securities Act and/or the Exchange Act. You are encouraged to read these filings as they are made.

Further, any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement or statements to reflect events or circumstances after the date on which such statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each

factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

Table of Contents

USE OF PROCEEDS

Except as described in any prospectus supplement, we currently intend to use the net proceeds from the sale of the securities offered hereby to fund the costs of clinical trial and other research and development activities and for general corporate purposes, including working capital. We may also use a portion of the net proceeds to in-license, invest in or acquire businesses or technologies that we believe are complementary to our own, although we have no current plans, commitments or agreements with respect to any acquisitions as of the date of this prospectus. Pending these uses, we intend to invest the net proceeds in investment-grade, interest-bearing securities.

PLAN OF DISTRIBUTION

We may sell our common stock covered by this prospectus in any of three ways (or in any combination):
to or through underwriters or dealers;

directly to one or more purchasers; or

through agents.

We may distribute the common stock:

from time to time in one or more transactions at a fixed price or prices, which may be changed from time to time;

at market prices prevailing at the time of sale;

at prices related to the prevailing market prices; or

at negotiated prices.

Each time we offer and sell shares of our common stock covered by this prospectus, we will provide a prospectus supplement or supplements that will describe the method of distribution and set forth the terms of the offering, including:

the name or names of any underwriters, dealers or agents;

the amounts of securities underwritten or purchased by each of them;

the purchase price of the common stock and the proceeds we will receive from the sale;

any over-allotment options under which underwriters may purchase additional common stock from us;

any underwriting discounts or commissions or agency fees and other items constituting underwriters' or agents' compensation;

the public offering price of the common stock;

any discounts, commissions or concessions allowed or reallowed or paid to dealers; and

any securities exchange or market on which the common stock may be listed.

Any public offering price and any discounts or concessions allowed or reallowed or paid to dealers may be changed from time to time. We may determine the price or other terms of the common stock offered under this prospectus by use of an electronic auction. We will describe how any auction will determine the price or any other terms, how potential investors may participate in the auction and the nature of the obligations of the underwriter, dealer or agent in the applicable prospectus supplement.

Underwriters or dealers may offer and sell the offered common stock from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the

time of sale. If underwriters or dealers are used in the sale of any common stock, the common stock will be acquired by the underwriters or dealers for their own account and may be resold from time to time in one or more transactions described above. The common stock may be either offered to

Table of Contents

the public through underwriting syndicates represented by managing underwriters, or directly by underwriters or dealers. Generally, the underwriters or dealers' obligations to purchase the common stock will be subject to certain conditions precedent. The underwriters or dealers will be obligated to purchase all of the common stock if they purchase any of the common stock, unless otherwise specified in the prospectus supplement. We may use underwriters with whom we have a material relationship. We will describe the nature of any such relationship in the prospectus supplement, naming the underwriter.

We may sell the common stock through agents from time to time. The prospectus supplement will name any agent involved in the offer or sale of the common stock and any commissions we pay to them. Generally, any agent will be acting on a best efforts basis for the period of its appointment. We may authorize underwriters, dealers or agents to solicit offers by certain purchasers to purchase the common stock 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.

Agents, dealers and underwriters may be entitled to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which the agents, dealers or underwriters may be required to make in respect thereof. Agents, dealers and underwriters may be customers of, engage in transactions with, or perform services for us in the ordinary course of business.

Any underwriter may engage in over-allotment, 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. This short sales position may involve either covered short sales or naked short sales. Covered short sales are short sales made in an amount not greater than the underwriters' over-allotment option to purchase additional shares in this offering described above. The underwriters may close out any covered short position either by exercising their over-allotment option or by purchasing shares in the open market. To determine how they will close the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market, as compared to the price at which they may purchase shares through the over-allotment option. Naked short sales are short sales in excess of the over-allotment option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that, in the open market after pricing, there may be downward pressure on the price of the shares that could adversely affect investors who purchase shares in this offering. Stabilizing transactions permit bids to purchase the underlying security for the purpose of fixing the price of the security so long as the stabilizing bids do not exceed a specified maximum. 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.

Similar to other purchase transactions, an underwriter's purchase to cover the syndicate short sales or to stabilize the market price of our common stock may have the effect of raising or maintaining the market price of our common stock or preventing or mitigating a decline in the market price of our common stock. As a result, the price of the shares of our common stock may be higher than the price that might otherwise exist in the open market. The imposition of a penalty bid might also have an effect on the price of the shares if it discourages resales of the shares.

Neither we nor the underwriters make any representation or prediction as to the effect that the transactions described above may have on the price of the shares. If such transactions are commenced, they may be discontinued without notice at any time.

LEGAL MATTERS

The validity of the issuance of the shares of our common stock offered by this prospectus will be passed upon for us by Cooley Godward Kronish LLP, San Diego, California.

EXPERTS

Stonefield Josephson, Inc., independent registered public accounting firm, has audited our consolidated financial statements as of and for the year ended December 31, 2008 and the effectiveness of Ardea Biosciences, Inc.'s internal control over financial reporting as of December 31, 2008, as set forth in their reports, each of which are included in our Annual Report on Form 10-K for the year ended December 31, 2008 as filed with the SEC on

March 13, 2009, and are incorporated by reference in this prospectus and elsewhere in the registration statement. These financial statements are incorporated by reference in reliance on Stonefield Josephson, Inc.'s reports, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are a reporting company and file annual, quarterly and current reports, proxy statements and other information with the

Table of Contents

Securities and Exchange Commission, or the SEC. You may read and copy these reports, proxy statements and other information at the SEC's public reference room at 100 F Street, N.E., Washington, D.C. 20549 or at the SEC's other public reference facilities. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the public reference room. You can request copies of these documents by writing to the SEC and paying a fee for the copying costs. Our SEC filings are also available at the SEC's website at <http://www.sec.gov>.

This prospectus is part of a registration statement that we filed with the SEC. The registration statement contains more information than this prospectus regarding us and our common stock, including certain exhibits and schedules. You can obtain a copy of the registration statement from the SEC at the address listed above or from the SEC's internet website.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

We are allowed to incorporate by reference information contained in documents that we file with the SEC. This means that we can disclose important information to you by referring you to those documents and that the information in this prospectus is not complete. You should read the information incorporated by reference for more detail. We incorporate by reference in two ways. First, we list certain documents that we have already filed with the SEC. The information in these documents is considered part of this prospectus. Second, the information in documents that we file in the future will update and supersede the current information in, and incorporated by reference in, this prospectus.

We incorporate by reference the documents listed below and any filings we will make with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date we filed the initial registration statement of which this prospectus is a part and before the effective date of the registration statement and any future filings we will make with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act from the date of this prospectus but prior to the termination of the offering (in each case, except for the information in any of the foregoing Current Reports on Form 8-K and Form 8-K/A furnished under Item 2.02 or Item 7.01 therein):

Annual report on Form 10-K for the year ended December 31, 2008, filed with the SEC on March 13, 2009;

Quarterly report on Form 10-Q for the quarter ended March 31, 2009, filed with the SEC on May 11, 2009;

Current reports on Form 8-K filed with the SEC on April 14, 2009, May 1, 2009 and May 8, 2009 (except for the information in such reports that shall not be deemed filed for purposes of Section 18 of the Exchange Act); and

The description of our common stock set forth in our registration statement on Form 8-A12B (File No. 001-33734), filed under the Securities Exchange Act of 1934 on October 9, 2007, and any amendment or report filed for the purpose of updating that description.

You may request a copy of these filings at no cost, by writing or telephoning us at the following address or telephone number:

Ardea Biosciences, Inc.
4939 Directors Place
San Diego, CA 92121
Attn: Investor Relations
(858) 652-6500

This prospectus is part of a registration statement that we filed with the SEC. The registration statement contains more information than this prospectus regarding us and our common stock, including certain exhibits and schedules. You can obtain a copy of the registration statement from the SEC at the address listed above or from the SEC's internet website. You should rely only on the information incorporated by reference or provided in this prospectus or any prospectus supplement. We have not authorized anyone else to provide you with different information. You should not assume that the information in this prospectus or any prospectus supplement is accurate as of any date other than the date on the front of these documents.