

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

**FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

ACADIA PHARMACEUTICALS INC.

(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

06-1376651
(I.R.S. Employer
Identification Number)

3611 Valley Centre Drive, Suite 300
San Diego, CA 92130
(858) 558-2871

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

Stephen Davis
President and Chief Executive Officer
ACADIA Pharmaceuticals Inc.
3611 Valley Centre Drive, Suite 300, San Diego, CA 92130
(858) 558-2871

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

Copies to:

Glenn F. Baity, Esq.
Executive Vice President, General Counsel and Secretary
ACADIA Pharmaceuticals Inc.
3611 Valley Centre Drive, Suite 300
San Diego, CA 92130
(858) 558-2871

L. Kay Chandler, Esq.
Sean M. Clayton, Esq.
Cooley LLP
4401 Eastgate Mall
San Diego, CA 92121-1909
(858) 550-6000

Approximate date of commencement of proposed sale to the public:

From time to time after the effective date of this Registration Statement.

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

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

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

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

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company.

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

CALCULATION OF REGISTRATION FEE

| Title of Each Class of Securities to be Registered | Number of Shares to be Registered (1)(2) | Proposed Maximum Offering Price Per Share (3) | Proposed Maximum Aggregate Offering Price (3) | Amount of Registration Fee |
|--|--|---|---|----------------------------|
| Common Stock, \$0.0001 par value | 26,179,806 | \$20.18 | \$528,308,485 | \$53,201 |

- (1) Includes 1,965,968 shares of common stock that may be issued upon the exercise of warrants.
- (2) Pursuant to Rule 416 under the Securities Act, the shares being registered hereunder include such indeterminate number of additional shares of common stock as may be issuable as a result of stock splits, stock dividends or similar transactions with respect to the shares being registered hereunder.
- (3) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(c) under the Securities Act, based upon the average of the high and low prices for the common stock on March 24, 2016, as reported by the NASDAQ Global Select Market.

PROSPECTUS



ACADIA
Pharmaceuticals

Common Stock

This prospectus relates to the disposition from time to time of up to 26,179,806 shares of our common stock, which includes 1,965,968 shares of our common stock issuable upon the exercise of warrants, which are held by the selling stockholders named in this prospectus. We are not selling any common stock under this prospectus and will not receive any of the proceeds from the sale of shares by the selling stockholders. We will, however, receive the net proceeds of any warrants exercised for cash.

The selling stockholders may sell the shares of common stock described in this prospectus in a number of different ways and at varying prices. We provide more information about how the selling stockholders may sell their shares of common stock in the section entitled “Plan of Distribution” on page 6. The selling stockholders will bear all commissions and discounts, if any, attributable to the sale or disposition of the shares, or interests therein. We will bear all costs, expenses and fees in connection with the registration of the shares. We will not be paying any underwriting discounts or commissions in this offering.

Our common stock is listed on the NASDAQ Global Select Market under the symbol “ACAD”. On March 31, 2016, the last reported sale price of our common stock was \$27.96 per share.

Our principal executive offices are located at 3611 Valley Centre Drive, Suite 300, San Diego, California 92130, and our telephone number at that address is (858) 558-2871.

An investment in our common stock involves a high degree of risk. You should review carefully the risks and uncertainties referred to under the heading “Risk Factors” beginning on page 3 of this prospectus and under any similar headings in any amendment or supplement to this prospectus or in any filing with the Securities and Exchange Commission that is incorporated by reference herein.

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.

April 1, 2016

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ABOUT THIS PROSPECTUS

This prospectus is 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 as a “well-known seasoned issuer,” as defined in Rule 405 under the Securities Act of 1933, as amended, or the Securities Act. Under this registration statement, the selling stockholders may sell from time to time in one or more offerings the common stock described in this prospectus.

We have not, and the selling stockholders have not, authorized anyone to provide you with information other than the information contained or incorporated by reference in this prospectus and any related prospectus supplement. No one is making offers to sell or seeking offers to buy these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information contained in this prospectus and any prospectus supplement is accurate only as of the date on the front of this prospectus or the prospectus supplement, as applicable, and that any information incorporated by reference in this prospectus or any prospectus supplement is accurate only as of the date given in the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any sale of our common stock. Our business, financial condition, results of operations and prospects may have changed since that date.

References in this prospectus to “ACADIA,” the “Company,” “we,” “us” and “our” refer to ACADIA Pharmaceuticals Inc., together with our wholly-owned subsidiaries.

“ACADIA” and “NUPLAZID” are our trademarks. This prospectus also includes trademarks and trade names owned by other parties, and these trademarks and trade names are the property of their respective owners. Use or display by us of other parties’ trademarks, trade dress or products in this prospectus is not intended to, and does not imply a relationship with, or endorsements or sponsorship of, us by the trademark or trade dress owners.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere or incorporated by reference into this prospectus. Because it is a summary, it does not contain all of the information that you should consider before investing in our securities. You should read this entire prospectus carefully, including the section entitled "Risk Factors", any prospectus supplement and the documents that we incorporate by reference into this prospectus, before making an investment decision.

ACADIA Pharmaceuticals Inc.

We are a biopharmaceutical company focused on the development and commercialization of innovative medicines to address unmet medical needs in central nervous system disorders. We have a portfolio of product opportunities led by our novel drug candidate, NUPLAZID™ (pimavanserin), for which we have reported positive Phase III pivotal trial results in Parkinson's disease psychosis, or PDP, and which has the potential to be the first drug approved in the United States for this condition. NUPLAZID is a selective serotonin inverse agonist, or SSIA, preferentially targeting 5-HT_{2A} receptors. Through this novel mechanism, NUPLAZID has demonstrated significant efficacy in Parkinson's disease psychosis in our Phase III pivotal trial and has the potential to avoid many of the debilitating side effects of existing antipsychotics, none of which are approved for use in PDP patients. We hold worldwide commercialization rights to pimavanserin.

We are pursuing Parkinson's disease psychosis as our lead indication for NUPLAZID. In September 2015, we submitted a New Drug Application, or NDA, to the U.S. Food and Drug Administration, or FDA, for NUPLAZID for the treatment of psychosis associated with Parkinson's disease, which was accepted for priority review by the FDA on October 30, 2015 with a Prescription Drug User Fee Act, or PDUFA, goal date of May 1, 2016. In January 2016, we announced that the FDA's Psychopharmacologic Drugs Advisory Committee will review data included in the NDA for NUPLAZID. At the March 29, 2016 meeting, the Advisory Committee voted 12 to 2 that the benefits of NUPLAZID for the treatment of psychosis associated with Parkinson's disease outweigh the risks of treatment. In September 2014, we announced that the FDA granted Breakthrough Therapy designation for NUPLAZID for the treatment of Parkinson's disease psychosis. The Breakthrough Therapy designation was created to expedite the development and review of drugs that are intended to treat serious or life-threatening conditions. If approved, we intend to commercialize NUPLAZID for Parkinson's disease psychosis in the United States by establishing a specialty sales force focused primarily on physicians who treat PDP patients, including neurologists, psychiatrists and long-term care physicians.

We were incorporated in Delaware in January 1997. Our principal executive offices are located at 3611 Valley Centre Drive, Suite 300, San Diego, California 92130, and our telephone number at that address is (858) 558-2871. Our website address is www.acadia-pharm.com. The information contained in, or that can be accessed through, our website is not part of this prospectus.

The Offering

Common stock to be offered by the selling stockholders 26,179,806 shares (1)

Use of Proceeds We will not receive any proceeds from the sale of the shares of common stock covered by this prospectus

NASDAQ Global Select Market Symbol ACAD

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- (1) Includes 1,965,968 shares of common stock that may be issued upon the exercise of warrants held by certain of the selling stockholders.

The selling stockholders named in this prospectus may offer and sell up to 26,179,806 shares of our common stock, including 1,965,968 shares of our common stock issuable upon the exercise of warrants issued by us in private placements that closed on January 12, 2011 and December 17, 2012. Throughout this prospectus, when we refer to the shares of our common stock being registered on behalf of the selling stockholders, we are referring to all shares of common stock reported to us as owned by the selling stockholders as of March 31, 2016, as well as the maximum number of shares that may be issued upon the exercise of warrants held by the selling stockholders as of March 31, 2016. We agreed to file the registration statement to which this prospectus forms a part to register these shares pursuant to a Registration Rights Agreement with the selling stockholders dated January 6, 2016. Additional information with respect to the Registration Rights Agreement is contained in this prospectus under the heading "Selling Stockholders" and in our current report on Form 8-K filed with the SEC on January 7, 2016.

When we refer to the selling stockholders in this prospectus, we are referring to the entities named in this prospectus as the selling stockholders and, as applicable, any donees, pledgees, transferees or other successors-in-interest selling shares received after the date of this prospectus from the selling stockholders as a gift, pledge, or other non-sale related transfer.

RISK FACTORS

An investment in our common stock involves a high degree of risk. Prior to making a decision about investing in our common stock, you should consider carefully the specific risk factors discussed in the sections entitled “Risk Factors” contained in our most recent Annual Report on Form 10-K, as filed with the Securities and Exchange Commission, or SEC, which is incorporated in this prospectus by reference in its entirety, as well as any amendment or updates to our risk factors reflected in subsequent filings with the SEC, including any prospectus supplement hereto. These risks and uncertainties are not the only risks and uncertainties we face. Additional risks and uncertainties not presently known to us, or that we currently view as immaterial, may also impair our business. If any of the risks or uncertainties described in our SEC filings or any additional risks and uncertainties actually occur, our business, financial condition, results of operations and cash flow could be materially and adversely affected. In that case, the trading price of our common stock could decline and you might lose all or part of your investment.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains, and the documents incorporated by reference herein and any prospectus supplement hereto may contain, forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These statements relate to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. Forward-looking statements may include, but are not limited to statements about:

- our plans and timing with respect to product development, business strategies, seeking regulatory approvals and commercialization activities;
- the potential commercialization of any of our drug candidates that receive regulatory approval;
- the progress, timing, results or implications of clinical trials and other development activities involving our drug candidates;
- the benefits to be derived from our drug candidates;
- the potential market opportunities for our drug candidates;
- our strategy for discovering, developing and commercializing, if approved, drug candidates;
- our existing and potential future collaborations;
- our estimates of future payments, revenues and profitability; and
- our estimates regarding our capital requirements, financial performance, future expenses and need for additional financing.

In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “could,” “would,” “expects,” “plans,” “anticipates,” “believes,” “estimates,” “projects,” “predicts,” “potential” and similar expressions (including their use in the negative) intended to identify forward-looking statements. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. We discuss many of these risks in greater detail in the documents incorporated by reference herein, usually under the heading “Risk Factors”. Also, these forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement.

We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements. Unless required by law, we undertake no obligation to update or revise any forward-looking

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statements to reflect new information or future events or developments. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements. Before deciding to purchase our common stock, you should carefully consider the risk factors incorporated by reference herein, in addition to the other information set forth in this prospectus and in the documents incorporated by reference herein.

USE OF PROCEEDS

We will not receive any of the proceeds from the sale of shares of our common stock by the selling stockholders pursuant to this prospectus. A portion of the shares covered by this prospectus are issuable upon exercise of warrants to purchase our common stock. Upon any exercise of any of the warrants for cash, the applicable selling stockholder would pay us the exercise price set forth in the warrants. The cash exercise price of the warrants to purchase up to 1,465,968 shares of our common stock issued on January 12, 2011 is \$1.38 per share and the cash exercise of the warrants to purchase up to 500,000 shares of our common stock issued on December 17, 2012 is \$0.01 per share. We expect to use any proceeds from the exercise of the warrants for cash primarily for our working capital and other corporate and operational purposes. Under certain conditions set forth in the warrants, the warrants are exercisable on a cashless basis. If any of the warrants are exercised on a cashless basis, we would not receive any cash payment from the applicable selling stockholder upon any such exercise of the warrants.

Each selling stockholder will pay any underwriting discounts and commissions and any expenses incurred by the selling stockholder for brokerage, accounting, tax or legal services or any other expenses incurred by such selling stockholder in disposing of shares covered by this prospectus, provided that we have agreed to bear legal expenses of the selling stockholders of up to \$50,000 per underwritten public offering of the shares offered by this prospectus.

SELLING STOCKHOLDERS

The selling stockholders named in this prospectus may offer and sell up to 26,179,806 shares of our common stock, including 1,965,968 shares of our common stock issuable upon the exercise of warrants. The foregoing shares and warrants represent all shares of common stock reported to us as held by the selling stockholders as of March 31, 2016 and the maximum number of shares of common stock issuable upon the exercise of warrants held by the selling stockholders as of March 31, 2016.

On January 6, 2016, in connection with a follow-on public offering of our common stock, we entered into a Registration Rights Agreement with the selling stockholders, pursuant to which we agreed that, if the selling stockholders demand that we register their shares of our common stock for resale under the Securities Act, we would be obligated to effect such registration. Our registration obligations under this Registration Rights Agreement cover all shares of our common stock now held or later acquired by the selling stockholders, will continue in effect for up to 10 years, and include our obligation to facilitate certain underwritten public offerings of our common stock by the selling stockholders in the future. We have agreed to bear all expenses incurred by us in effecting any registration pursuant to the Registration Rights Agreement as well as the legal expenses of the selling stockholders of up to \$50,000 per underwritten public offering effected pursuant to the Registration Rights Agreement. Additional information with respect to the Registration Rights Agreement is contained in our current report on Form 8-K filed with the SEC on January 7, 2016.

Julian C. Baker and Stephen R. Biggar, each a director of ACADIA, are employees of Baker Bros. Advisors LP, or BBA, which is affiliated with the selling stockholders.

Except for the ownership of the shares of common stock, the Registration Rights Agreement and Julian C. Baker's and Stephen R. Biggar's positions on our Board of Directors, the selling stockholders have not had any material relationship with us or our affiliates within the past three years.

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The table below, including the footnotes, lists the selling stockholders and other information regarding the beneficial ownership of the shares of common stock held by each of the selling stockholders based on information provided to us by the selling stockholders. The percentages of shares owned prior to and after the offering are based on 114,788,659 shares of our common stock outstanding as of March 31, 2016, which includes the outstanding shares of common stock offered by this prospectus and the maximum number of shares of our common stock issuable upon exercise of the warrants in full for cash and the shares reported to us as beneficially owned by the selling stockholders from options. The number of shares beneficially owned prior to the offering indicates the number of shares of common stock reported to us as beneficially owned by the selling stockholders, as of March 31, 2016.

The maximum number of shares to be sold column indicates the total number of shares of our common stock, including the shares of common stock issuable upon exercise of the warrants in full for cash, that the selling stockholders may offer under this prospectus.

The shares beneficially owned after offering number assumes the sale of all of the shares offered by the selling stockholders pursuant to this prospectus, including all of the shares of our common stock issuable upon exercise of the warrants. However, because the selling stockholders may sell all or some of their shares under this prospectus from time to time, or in another permitted manner, we cannot assure you as to the actual number of shares that will be sold by the selling stockholders or that will be held by the selling stockholders after completion of any sales. We do not know how long any of the selling stockholders will hold the shares before selling them. Information concerning the selling stockholders may change from time to time and changed information will be presented in a supplement to this prospectus if and when necessary and required.

The selling stockholders may sell all, some or none of their shares in this offering. See “Plan of Distribution”.

| Name of Selling Stockholder | Shares Beneficially Owned Prior to Offering | | Maximum Number of Shares to be Sold Pursuant to this Prospectus | Shares Beneficially Owned After Offering (1) | |
|------------------------------------|--|----------------|--|---|----------------|
| | Number | Percent | Number | Number | Percent |
| Baker Bros. Advisors LP (2)(3)(4) | 26,229,181 | 22.85% | 26,179,806 | 49,375 | * |

* Represents beneficial ownership of less than one percent of the outstanding shares of our common stock.

- (1) The selling stockholders may offer and sell all or part of the common stock covered by this prospectus, but no estimates can be made as to the amount of shares of common stock that will be held by the selling stockholders after the completion of this offering.
- (2) Under the terms of the warrants held by selling stockholders issued on January 12, 2011, the number of shares of our common stock that may be acquired by the selling stockholders upon any exercise of the warrants is generally limited to the extent necessary to ensure that, following such exercise, the total number of shares of our common stock then beneficially owned by the selling stockholders, together with their affiliates and any other persons or entities whose beneficial ownership, as calculated pursuant to Section 13(d) of the Exchange Act and the applicable regulations of the SEC, would not exceed 9.9% of the total number of shares of our common stock then issued and outstanding. Solely for purposes of this table, the 9.9% limitation is disregarded, and the numbers of shares of common stock beneficially owned do not reflect this limitation.
- (3) Under the terms of the warrants held by selling stockholders issued on December 17, 2012, the number of shares of our common stock that may be acquired by the selling stockholders upon any exercise of the warrants is generally limited to the extent necessary to ensure that, following such exercise, the total number of shares of our common stock then beneficially owned by the selling stockholders, together with their affiliates and any other persons or entities whose beneficial ownership, as calculated pursuant to Section 13(d) of the Exchange Act and the applicable regulations of the SEC, would not exceed 19.99% of

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the total number of shares of our common stock then issued and outstanding. Solely for purposes of this table, the 19.99% limitation is disregarded, and the numbers of shares of common stock beneficially owned do not reflect this limitation.

- (4) The shares of common stock reported to us as beneficially owned by Baker Bros. Advisors LP are held by the following selling stockholders (i) 667, L.P., or 667 (2,909,102 shares of common stock, including 42,131 shares of common stock issuable upon the exercise of warrants held by 667, without giving effect to the limitations on exercise described in notes (2) or (3) above), (ii) Baker Brothers Life Sciences, L.P., or BBLS (22,768,055 shares of common stock, including 1,873,728 shares of common stock issuable upon the exercise of warrants held by BBLS, without giving effect to the limitations on exercise described in notes (2) or (3) above) and (iii) 14159, L.P., or 14159 (502,649 shares of common stock, including 50,109 shares of common stock issuable upon the exercise of warrants held by 14159, without giving effect to the limitations on exercise described in notes (2) or (3) above). In addition, Dr. Stephen Biggar holds options to acquire 49,375 shares of common stock, which are exercisable within 60 days of the date hereof. BBA is the management company and investment adviser to 667, BBLS and 14159 and may be deemed to beneficially own all shares held by 667, BBLS, 14159 and Dr. Biggar. Baker Bros. Advisors (GP) LLC, or BBA-GP, is the sole general partner of BBA. Julian C. Baker and Felix J. Baker have voting and investment power over the shares held by each of 667, BBLS and 14159, as principals of BBA-GP. Julian C. Baker, Felix J. Baker, BBA and BBA-GP disclaim beneficial ownership of all shares held by 667, BBLS and 14159, except to the extent of their indirect pecuniary interest therein.

PLAN OF DISTRIBUTION

The selling stockholders may sell the shares offered by this prospectus. The selling stockholders, including their donees, pledgees, transferees or other successors-in-interest selling shares of common stock received after the date of this prospectus from a selling stockholder as a gift, pledge, partnership distribution or other transfer, may, from time to time, sell, transfer or otherwise dispose of any or all of their shares of common stock or interests in shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices. To the extent any of the selling stockholders gift, pledge, grant a security interest in, or otherwise transfer the shares offered hereby, such transferees may offer and sell the shares from time to time under this prospectus, provided that this prospectus has been amended under Rule 424(b)(3) or other applicable provision of the Securities Act to include the name of such transferee in the list of selling stockholders under this prospectus if and when necessary or required.

The selling stockholders will act independently of us in making decisions with respect to the timing, manner and size of each sale. They may use any one or more of the following methods when disposing of shares or interests therein:

- ordinary brokerage transactions and transactions in which a broker-dealer solicits purchasers;
- block trades in which a broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account under this prospectus;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- “at the market” or through market makers or into an existing market for the shares;
- short sales entered into after the effective date of the registration statement of which this prospectus is a part;

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- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise, after the effective date of the registration statement of which this prospectus is a part;
- through the distribution of the common stock by any selling stockholders to its partners, members or stockholders;
- through broker-dealers that agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- through one or more underwritten offerings on a firm commitment or best efforts basis;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

In connection with the sale of the shares, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling stockholders may also sell shares of our common stock short and deliver these securities to close out their short positions, or loan or pledge the common stock to broker dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The aggregate proceeds to the selling stockholders from the sale of the shares offered by them will be the purchase price of the common stock less discounts or commissions, if any. Each of the selling stockholders reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of common stock to be made directly or through agents. We will not receive any of the proceeds from this offering. We will, however, receive the proceeds of any warrants exercised for cash.

The selling stockholders also may resell all or a portion of the shares in open market transactions in reliance upon Rule 144 under the Securities Act of 1933, provided that they meet the criteria and conform to the requirements of that rule.

The selling stockholders and any broker-dealers that act in connection with the sale of securities may be deemed to be “underwriters” within the meaning of Section 2(11) of the Securities Act in connection with such sales, and any commissions received by such broker-dealers and any profit on the resale of the securities sold by them while acting as principals may be deemed to be underwriting discounts or commissions under the Securities Act. In the event that any selling stockholder is deemed to be an “underwriter” within the meaning of Section 2(11) of the Securities Act, the selling stockholder will be subject to the prospectus delivery requirements of the Securities Act. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act. To our knowledge and based upon information we received from the selling stockholders, each selling stockholder that is affiliated with a broker-dealer acquired the shares of common stock being registered hereunder in the ordinary course of business, and, at the time such selling stockholder acquired the shares being registered hereunder, such selling stockholder did not have any agreement or understanding, directly or indirectly, with any person to distribute such shares. To our knowledge, none of the selling stockholders received any shares as underwriting compensation.

To the extent required, the shares of our common stock to be sold, the names of the selling stockholders, the respective purchase prices and public offering prices, the names of any agents, dealer or underwriter, any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying

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prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

To comply with the securities laws of some states, if applicable, the shares may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the shares may not be sold unless they have been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

We have advised the selling stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares of our common stock in the market and to the activities of the selling stockholders and their affiliates. These rules may limit the timing of purchases and sales of the shares by such selling stockholders. Regulation M may also restrict the ability of any person engaged in the distribution of the shares of common stock to engage in market-making activities with respect to the shares of common stock. All of the foregoing may affect the marketability of the shares of common stock and the ability of any person or entity to engage in market-making activities with respect to the shares of common stock.

We will bear all of the costs, expenses and fees in connection with the registration of the shares of common stock, other than any commissions, discounts or other fees payable to underwriters or broker-dealers in connection with any sale of shares, which will be borne by the selling stockholder selling such shares of common stock. We have agreed to bear legal expenses of the selling stockholders of up to \$50,000 per underwritten public offering of the shares offered by this prospectus. We have agreed to indemnify the selling stockholders against certain liabilities, including liabilities under the Securities Act and state securities laws, relating to the registration of the shares offered by this prospectus.

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

LEGAL MATTERS

Cooley LLP, San Diego, California, has given its opinion to us as to certain legal matters relating to the validity of the shares of our common stock to be offered by this prospectus.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2015, and the effectiveness of our internal control over financial reporting as of December 31, 2015, as set forth in their reports, which are incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference to our Annual Report on Form 10-K for the year ended December 31, 2015 in reliance on Ernst & Young LLP's reports, given on their authority as experts in accounting and auditing.

The financial statements as of December 31, 2014 and for each of the two years in the period ended December 31, 2014 incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2015 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We are a reporting company and we file annual, quarterly and current reports, proxy statements and other information with the SEC. We have filed with the SEC a registration statement under the Securities Act with respect to the common stock offered hereby. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement or the exhibits which are part of the registration statement. For further information with respect to us and the common stock offered by this prospectus, we refer you to the registration statement and the exhibits filed as part of the registration statement. You may read and copy any document we file at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. Our SEC filings are also available to the public from the SEC's website at www.sec.gov. We maintain a website at www.acadia-pharm.com. The information contained in, or that can be accessed through, our website is not part of this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" the information we file with it, which means that we can disclose important information to you by referring to those documents. The information incorporated by reference is an important part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information.

We incorporate by reference the following documents we filed with the SEC pursuant to Section 13 of the Exchange Act and any future filings we will make with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act after the date of this prospectus until the termination of the offering of the shares covered by this prospectus (other than information furnished under Item 2.02 or Item 7.01 of Form 8-K):

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2015;
- our Current Reports on Form 8-K filed on January 5, 2016, January 7, 2016, January 12, 2016, February 24, 2016 and March 18, 2016; and
- the description of our common stock contained in our registration statement on Form 8-A dated May 19, 2004.

You may access our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, Proxy Statement, and amendments, if any, to those documents filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act with the SEC free of charge at the SEC's website or our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The reference to our website does not constitute incorporation by reference of the information contained in our website. We do not consider information contained on, or that can be accessed through, our website to be part of this prospectus or the related registration statement.

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

Investor Relations
ACADIA Pharmaceuticals Inc.
3611 Valley Centre Drive, Suite 300
San Diego, CA 92130
(858) 558-2871

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following table sets forth the costs and expenses, payable by us in connection with the offering of common stock being registered. All amounts are estimates except the registration fee.

| | Amount to Be Paid |
|------------------------------|------------------------------|
| SEC registration fee | \$ 53,201 |
| Legal fees and expenses | 15,000 |
| Accounting fees and expenses | 30,000 |
| Printing and miscellaneous | 6,799 |
| Total | \$105,000 |

Item 15. Indemnification of Directors and Officers

Section 102 of the Delaware General Corporation Law allows a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit.

Section 145 of the Delaware General Corporation Law provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against amounts paid and expenses incurred in connection with an action or proceeding to which he is or is threatened to be made a party by reason of such position, if such person shall have acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interest of the corporation, and, in any criminal proceeding, if such person had no reasonable cause to believe his conduct was unlawful; provided that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the adjudicating court determines that such indemnification is proper under the circumstances.

Our amended and restated certificate of incorporation and bylaws include provisions that indemnify our directors and officers for actions taken in such capacity, if the actions were taken in good faith and in a manner reasonably believed to be in our best interests and, in a criminal proceeding, the director or officer had no reasonable cause to believe that his or her conduct was unlawful. A director or officer who is successful in defending a claim will be indemnified for all expenses incurred in connection with his or her defense. We have entered into indemnification agreements with our officers and directors that require us to indemnify such persons against any and all expenses (including attorneys' fees), witness fees, damages, judgments, fines, settlements and other amounts incurred in connection with any action, suit or proceeding, whether actual or threatened, to which any such person may be made a party by reason of the fact that such person is or was or at any time becomes a director, an officer or an employee of ACADIA or any of our affiliated enterprises, provided that such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to our best interest and, with respect to any criminal proceeding, had no reasonable cause to believe his or her conduct was unlawful.

We maintain directors and officers insurance providing indemnification for certain of our directors, officers, affiliates, partners and employees for certain liabilities.

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Item 16. Exhibits

| Exhibit Number | Description |
|-----------------------|---|
| 3.1 | Amended and Restated Certificate of Incorporation, as Amended (incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q, filed August 6, 2015). |
| 3.2 | Amended and Restated Bylaws (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, filed September 12, 2013). |
| 4.1 | Reference is made to Exhibits 3.1 and 3.2 above. |
| 4.2 | Form of common stock certificate of the Registrant (incorporated by reference to Exhibit 4.1 to Registration Statement No. 333-52492). |
| 4.3 | Form of Warrant to Purchase Common Stock issued to purchasers in a private placement on January 12, 2011 (incorporated by reference to Exhibit 4.5 to Registration Statement No 333-171722). |
| 4.4 | Form of Warrant to Purchase Common Stock issued to purchasers in a private placement on December 17, 2012 (incorporated by reference to Exhibit 4.4 to Registration Statement No. 333-185639). |
| 4.5 | Registration Rights Agreement, dated January 6, 2016, between the Registrant and the investors listed on Schedule A thereto (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed January 7, 2016). |
| 5.1 | Opinion of Counsel. |
| 23.1 | Consent of Independent Registered Public Accounting Firm. |
| 23.2 | Consent of Independent Registered Public Accounting Firm. |
| 23.3 | Consent of Counsel (included in Exhibit 5.1). |
| 24.1 | Power of Attorney (included on signature page). |

Item 17. Undertakings

The undersigned Registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
- (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933, as amended, or the Securities Act;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

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provided, however, that subparagraphs (i), (ii) and (iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

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

(4) That, for the purpose of determining liability under the Securities Act to any purchaser:

- (i) Each prospectus filed by the Registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
- (ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

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

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the provisions of Item 15 above, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, State of California, on April 1, 2016.

ACADIA PHARMACEUTICALS INC.

By: /s/ Stephen R. Davis
Stephen R. Davis
President and Chief Executive Officer

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Stephen R. Davis and Glenn F. Baity, and each of them, as his or her true and lawful attorneys in fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place, and stead, in any and all capacities, to sign any and all amendments to this registration statement and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys in fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys in fact and agents, or any of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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

| <u>Signature</u> | <u>Title</u> | <u>Date</u> |
|---|---|---------------|
| <u>/s/ Stephen R. Davis</u> Stephen R. Davis | President, Chief Executive Officer and Director <i>(Principal Executive, Financial and Accounting Officer)</i> | April 1, 2016 |
| <u>/s/ Leslie Iversen</u> Leslie Iversen | Chairman of the Board | April 1, 2016 |
| <u>/s/ Julian Baker</u> Julian Baker | Director | April 1, 2016 |
| <u>/s/ Stephen Biggar</u> Stephen Biggar | Director | April 1, 2016 |
| <u>/s/ Laura Brege</u> Laura Brege | Director | April 1, 2016 |
| <u>/s/ James Daly</u> James Daly | Director | April 1, 2016 |
| <u>/s/ Mary Ann Gray</u> Mary Ann Gray | Director | April 1, 2016 |

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| | | |
|---|----------|---------------|
| <u>/s/ Edmund Harrigan</u> Edmund Harrigan | Director | April 1, 2016 |
| <u>/s/ Daniel Soland</u> Daniel Soland | Director | April 1, 2016 |
| <u>/s/ William M. Wells</u> William M. Wells | Director | April 1, 2016 |

INDEX TO EXHIBITS

| Exhibit Number | Description |
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| 4.4 | Form of Warrant to Purchase Common Stock issued to purchasers in a private placement on December 17, 2012 (incorporated by reference to Exhibit 4.4 to Registration Statement No. 333-185639). |
| 4.5 | Registration Rights Agreement, dated January 6, 2016, between the Registrant and the investors listed on Schedule A thereto (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed January 7, 2016). |
| 5.1 | Opinion of Counsel. |
| 23.1 | Consent of Independent Registered Public Accounting Firm. |
| 23.2 | Consent of Independent Registered Public Accounting Firm. |
| 23.3 | Consent of Counsel (included in Exhibit 5.1). |
| 24.1 | Power of Attorney (included on signature page). |

Sean M. Clayton
T: +1 858 550 6034
sclayton@cooley.com

April 1, 2016

ACADIA Pharmaceuticals Inc.
3611 Valley Centre Drive, Suite 300
San Diego, CA 92130

Ladies and Gentlemen:

You have requested our opinion, as counsel to ACADIA Pharmaceuticals Inc., a Delaware corporation (the “*Company*”), with respect to certain matters in connection with the filing by the Company of a Registration Statement on Form S-3 (the “*Registration Statement*”) with the Securities and Exchange Commission, including a related prospectus filed with the Registration Statement (the “*Prospectus*”), covering the registration for resale of up to 26,179,806 shares of the Common Stock, \$0.0001 par value, of the Company on behalf of certain selling stockholders, including 24,213,838 currently outstanding shares of Common Stock (the “*Shares*”) and up to 1,965,968 shares of Common Stock (the “*Warrant Shares*”) issuable upon the exercise of certain warrants held by such selling stockholders (the “*Warrants*”).

In connection with this opinion, we have examined and relied upon the Registration Statement, the Prospectus, the Warrants, the Company’s Amended and Restated Certificate of Incorporation, as amended, its Amended and Restated Bylaws, and the originals or copies certified to our satisfaction of such records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness and authenticity of all documents submitted to us as originals and the conformity to originals of all documents submitted to us as copies thereof. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not independently sought to verify such matters.

Our opinion is expressed only with respect to the federal laws of the United States of America and the General Corporation Law of the State of Delaware.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that (i) the Shares are validly issued, fully paid and nonassessable, and (ii) the Warrant Shares, when issued and sold in accordance with the terms of the Warrants, will be validly issued, fully paid and nonassessable.

We consent to the reference to our firm under the caption “Legal Matters” in the Prospectus and to the filing of this opinion as an exhibit to the Registration Statement.

Very truly yours,

Cooley LLP

By: /s/ Sean M. Clayton
Sean M. Clayton

4401 EASTGATE MALL, SAN DIEGO, CA 92121 T: (858) 550-6000 F: (858) 550-6420 WWW.COOLEY.COM

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the reference to our firm under the caption "Experts" in this Registration Statement (Form S-3) and related Prospectus of ACADIA Pharmaceuticals Inc. for the registration of shares of its common stock and to the incorporation by reference therein of our reports dated February 29, 2016, with respect to the consolidated financial statements of ACADIA Pharmaceuticals Inc., and the effectiveness of internal control over financial reporting of ACADIA Pharmaceuticals Inc., included in its Annual Report (Form 10-K) for the year ended December 31, 2015, filed with the Securities and Exchange Commission.

/s/ Ernst & Young

San Diego, California
April 1, 2016

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-3 of our report dated February 26, 2015 relating to the financial statements, which appears in ACADIA Pharmaceuticals Inc.'s Annual Report on Form 10-K for the year ended December 31, 2015. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/ PricewaterhouseCoopers LLP

San Diego, California
April 1, 2016