UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8 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 No.)

3611 Valley Centre Drive, Suite 300
San Diego, CA 92130
(858) 558-2871
(Address of Principal Executive Offices, Including Zip Code)

ACADIA Pharmaceuticals Inc. 2010 EQUITY INCENTIVE PLAN 2004 EMPLOYEE STOCK PURCHASE PLAN (Full Title of the Plan)

Austin D. Kim
Executive Vice President, General Counsel & Secretary
ACADIA Pharmaceuticals Inc.
3611 Valley Centre Drive, Suite 300
San Diego, CA 92130
(Name and Address of Agent for Service)

(858) 558-2871 (Telephone Number, Including Area Code, of Agent for Service)

Copies to:

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

| emerging growth compar | 8 | ler, an accelerated filer, a non-accelerated filer, a smaller reporting company or ", "accelerated filer", "smaller reporting company" and "emerging growth | an |
|-------------------------|--|---|----|
| Large accelerated filer | | Accelerated filer | |
| Non-accelerated filer | | Smaller reporting company | |
| | | Emerging growth company | |
| | ompany, indicate by check mark if the registraccounting standards provided pursuant to S | ant has elected not to use the extended transition period for complying with any ection $7(a)(2)(B)$ of the Securities Act. \square | ī |

CALCULATION OF REGISTRATION FEE

| Title of Securities to Be Registered | Amount to Be Registered(1) | Proposed Maximum Offering Price per Share(2) | Proposed Maximum Aggregate Offering Price(2) | Amount of Registration Fee |
|---|----------------------------------|---|---|-------------------------------|
| Common Stock issuable under the 2010 Equity Incentive Plan (par | 8,300,000 | | | |
| value \$0.0001 per share) | shares(3) | \$23.14 | \$192,062,000 | \$23,278 |
| Common Stock issuable under the 2004 Employee Stock Purchase | 600,000 | | | |
| Plan (par value \$0.0001 per share) | shares(4) | \$23.14 | \$13,884,000 | \$1,683 |
| Total | 8,900,000 | | | |
| | shares | N/A | \$205,946,000 | \$24,961 |

- (1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement also registers any additional shares of the Registrant's common stock, par value \$0.0001 per share (the "Common Stock"), as may become issuable under the Registrant's 2010 Equity Incentive Plan (the "2010 Plan") or the Registrant's 2004 Employee Stock Purchase Plan (the "2004 Plan") as a result of any stock split, stock dividend, recapitalization or similar event.
- (2) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(h)(1) and Rule 457(c) under the Securities Act. The price per share and aggregate offering price are based upon the average of the high and low prices of the Registrant's Common Stock on July 26, 2019, as reported on The Nasdaq Global Select Market.
- (3) Represents shares of Common Stock added to the shares authorized for issuance under the 2010 Plan pursuant to an amendment to such plan approved by the Registrant's stockholders at the Registrant's 2019 Annual Meeting of Stockholders.
- (4) Represents shares of Common Stock added to the shares authorized for issuance under the 2004 Plan pursuant to an amendment to such plan approved by the Registrant's stockholders at the Registrant's 2019 Annual Meeting of Stockholders.

INCORPORATION BY REFERENCE OF CONTENTS OF REGISTRATION STATEMENTS ON FORM S-8

The contents of Registration Statements on Form S-8 No. 333-115956, No. 333-128290, No. 333-137557, No. 333-146398, No. 333-153346, No. 333-161057, No. 333-168667, as amended, No. 333-176212, No. 333-183151, No. 333-190400, No. 333-197872, No. 333-207971, No. 333-213109, No. 333-219785 and No. 333-226834 originally filed with the Securities and Exchange Commission on May 27, 2004, September 13, 2005, September 22, 2006, September 28, 2007, September 5, 2008, August 5, 2009, August 9, 2010, August 10, 2011, August 19, 2011, August 8, 2012, August 6, 2013, August 5, 2014, November 12, 2015, August 12, 2016, August 8, 2017 and August 14, 2018 respectively, are incorporated by reference herein.

Item 8. Exhibits

| Exhibit Number | Description | | | |
|-------------------|---|--|--|--|
| 4.1 | 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). | | | |
| 4.2 | 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). | | | |
| 4.3 | Form of common stock certificate of the Registrant (incorporated by reference to Exhibit 4.1 to Registration Statement No. 333-52492, filed December 21, 2000). | | | |
| 5.1 | Opinion of Cooley LLP. | | | |
| 23.1 | Consent of Independent Registered Public Accounting Firm. | | | |
| 23.2 | Consent of Cooley LLP. Reference is made to Exhibit 5.1. | | | |
| 24.1 | Power of Attorney is contained on the signature pages. | | | |
| 99.1ª | 2010 Equity Incentive Plan, as amended (incorporated by reference to Exhibit 99.1 to the Registrant's Current Report on Form 8-K, filed June 28, 2019). | | | |
| 99.2ª | 2004 Employee Stock Purchase Plan, as amended (incorporated by reference to Exhibit 99.2 to the Registrant's Current Report on Form 8-K, filed June 28, 2019). | | | |

a Indicates management contract or compensatory plan or arrangement.

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-8 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 August 2, 2019.

ACADIA PHARMACEUTICALS INC.

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

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints STEPHEN R. DAVIS and AUSTIN D. KIM, and each of them, his or her true and lawful attorney-in-fact and agent, 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 (including post-effective 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, and each of them, 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 either of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

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

| Signature | Title | Date |
|--|--|----------------|
| /s/ Stephen R. Davis STEPHEN R. DAVIS | Chief Executive Officer, Director (Principal Executive Officer) | August 2, 2019 |
| /s/ Elena H. Ridloff ELENA H. RIDLOFF | Executive Vice President and Chief Financial Officer (Principal Financial Officer) | August 2, 2019 |
| /s/ Eric Miller ERIC MILLER | Senior Director and Controller (Principal Accounting Officer) | August 2, 2019 |
| /s/ Stephen R. Biggar STEPHEN R. BIGGAR | Chairman of the Board | August 2, 2019 |
| /s/Julian Baker JULIAN BAKER | Director | August 2, 2019 |
| /s/ Laura A. Brege LAURA A. BREGE | Director | August 2, 2019 |
| /s/ James Daly JAMES DALY | Director | August 2, 2019 |
| /s/ Edmund Harrigan EDMUND HARRIGAN | Director | August 2, 2019 |
| /s/ Daniel B. Soland DANIEL B. SOLAND | Director | August 2, 2019 |



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

August 2, 2019

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"), in connection with the filing by the Company of a Registration Statement on Form S-8 (the "Registration Statement") with the Securities and Exchange Commission, covering the offering of up to 8,900,000 shares of the Company's common stock, \$0.0001 par value (the "Shares"), including up to 8,300,000 shares issuable pursuant to the Company's 2010 Equity Incentive Plan (the "Incentive Plan") and up to 600,000 shares issuable pursuant to the Company's 2004 Employee Stock Purchase Plan (together with the Incentive Plan, the "Plans").

In connection with this opinion, we have examined and relied upon the Registration Statement and related prospectuses, the Plans, the Company's 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 sought independently to verify such matters.

Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion to the extent that any other laws are applicable to the subject matter hereof and express no opinion and provide no assurance as to compliance with any federal or state securities law, rule or regulation.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares, when sold and issued in accordance with the Plans, the Registration Statement and the related prospectuses, will be validly issued, fully paid, and nonassessable (except as to Shares issued pursuant to certain deferred payment arrangements, which will be fully paid and nonassessable when such deferred payments are made in full).

We consent to the filing of this opinion as an exhibit to the Registration Statement.

Sincerely,
Cooley LLP

/s/ Sean M. Clayton Sean M. Clayton

> Cooley LLP 4401 Eastgate Mall San Diego, CA 92121 t: (858) 550-6000 f: (858) 550-6420 cooley.com

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the ACADIA Pharmaceuticals Inc. 2010 Equity Incentive Plan and 2004 Employee Stock Purchase Plan of our reports dated February 26, 2019, with respect to the consolidated financial statements and schedule 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, 2018, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

San Diego, California August 2, 2019