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** (Full Title of the Plan)

Glenn F. Baity 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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definitions of "large accelerated filer", "accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Securities Exchange Act of 1934:

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

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

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 value \$0.0001 per share)	5,500,000 shares(3)	\$29.41	\$161,755,000	\$18,747
Total	5,500,000 shares	N/A	\$161,755,000	\$18,747

(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 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 Registrant's Common Stock on August 3, 2017, as reported on The NASDAQ Global Select Market.

(3) Represents shares of Common Stock added to the shares authorized for issuance under the Registrant's 2010 Equity Incentive Plan (the "2010 Plan") pursuant to an amendment to such plan approved by the Registrant's stockholders at the Registrant's 2017 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. 333-168667, as amended, No. 333-190400, No. 333-207971, and No. 333-213109, originally filed with the Securities and Exchange Commission on August 9, 2010, August 19, 2011, August 6, 2013, November 12, 2015, and August 12, 2016, 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 15, 2017).

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 8, 2017.

ACADIA PHARMACEUTICALS INC.

By: /s/ Stephen R. Davis

Stephen R. Davis President and 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 GLENN F. BAITY, 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	President and Chief Executive Officer, Director (Principal Executive Officer)	August 8, 2017
/s/ Todd S. Young TODD S. YOUNG	Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	August 8, 2017
/s/ Stephen R. Biggar STEPHEN R. BIGGAR	Chair of the Board	August 8, 2017
/s/ Julian Baker JULIAN BAKER	Director	August 8, 2017
/s/ Laura A. Brege LAURA A. BREGE	Director	August 8, 2017
/s/ James Daly JAMES DALY	Director	August 8, 2017
/s/ Edmund Harrigan EDMUND HARRIGAN	Director	August 8, 2017
/s/ Daniel B. Soland DANIEL B. SOLAND	Director	August 8, 2017

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Cooley

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

August 8, 2017

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 5,500,000 shares of the Company's common stock, \$0.0001 par value (the "Shares") issuable pursuant to the Company's 2010 Equity Incentive Plan (the "Plan").

In connection with this opinion, we have examined and relied upon the Registration Statement and related prospectus, the Plan, 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.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares, when issued and sold in accordance with the Plan, the Registration Statement and related prospectus, 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

By: /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 2010 Equity Incentive Plan of ACADIA Pharmaceuticals Inc. of our reports dated February 28, 2017, 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, 2016, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

San Diego, California August 8, 2017