

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

SCHEDULE 13D
(Rule 13d-102)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT
TO RULE 13d-1(a) AND AMENDMENTS THERETO FILED PURSUANT
TO RULE 13d-2(a)

(Amendment No. ___)*

ACADIA Pharmaceuticals Inc.

(Name of Issuer)

Common Stock, par value \$0.0001 per share

(Title of Class of Securities)

004225108

(CUSIP number)

Leo Kirby
667 Madison Avenue, 21st Floor
New York, NY 10065
(212) 339-5633

(Name, address and telephone number of person authorized to receive notices and communications)

December 12, 2012

(Date of event which requires filing of this statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of Rule 13d-1(e), 13d-1(f) or 13d-1(g), check the following box .

(Continued on the following pages)

(Page 1 of 11 Pages)

*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act.

1.	NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY) Baker Bros. Advisors, LLC	
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* <div style="text-align: right;"> <input type="checkbox"/> (a) p <input type="checkbox"/> (b) p </div>	
3.	SEC USE ONLY	
4.	SOURCE OF FUNDS* OO	
5.	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e) o	
6.	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7.	SOLE VOTING POWER: 15,621,812
	8.	SHARED VOTING POWER: 0
	9.	SOLE DISPOSITIVE POWER: 15,621,812
	10.	SHARED DISPOSITIVE POWER: 0
11.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON: 15,621,812	
12.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES* p	
13.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 19.9% (1)	
14.	TYPE OF REPORTING PERSON* IA	

(1) Based on 59,656,469 shares of common stock outstanding as reported in the Issuer's Form S-3 filed with the SEC on December 21, 2012, plus 19,000,000 shares issued pursuant to the Purchase Agreement (as defined in Item 4 below), as reported in the Issuer's Form 8-K filed with the SEC on December 12, 2012.

1.	NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY) Felix J. Baker	
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* <div style="float: right;"> <input type="checkbox"/> (a) p <input type="checkbox"/> (b) p </div>	
3.	SEC USE ONLY	
4.	SOURCE OF FUNDS* OO	
5.	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e) o	
6.	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
	7.	SOLE VOTING POWER: 15,621,812
	8.	SHARED VOTING POWER:
	9.	SOLE DISPOSITIVE POWER: 15,621,812
	10.	SHARED DISPOSITIVE POWER:
11.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON: 15,621,812	
12.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES* p	
13.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 19.9% (1)	
14.	TYPE OF REPORTING PERSON* IN, HC	

(1) Based on 59,656,469 shares of common stock outstanding as reported in the Issuer's Form S-3 filed with the SEC on December 21, 2012, plus 19,000,000 shares issued pursuant to the Purchase Agreement (as defined in Item 4 below), as reported in the Issuer's Form 8-K filed with the SEC on December 12, 2012.

1.	NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY) Julian C. Baker	
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* <div style="float: right;"> <input type="checkbox"/> (a) p <input type="checkbox"/> (b) p </div>	
3.	SEC USE ONLY	
4.	SOURCE OF FUNDS* OO	
5.	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e) o	
6.	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
	7.	SOLE VOTING POWER: 15,621,812
	8.	SHARED VOTING POWER
	9.	SOLE DISPOSITIVE POWER: 15,621,812
	10.	SHARED DISPOSITIVE POWER:
11.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON: 15,621,812	
12.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES* p	
13.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 19.9% (1)	
14.	TYPE OF REPORTING PERSON* IN, HC	

(1) Based on 59,656,469 shares of common stock outstanding as reported in the Issuer's Form S-3 filed with the SEC on December 21, 2012, plus 19,000,000 shares issued pursuant to the Purchase Agreement (as defined in Item 4 below), as reported in the Issuer's Form 8-K filed with the SEC on December 12, 2012.

ITEM 1. Security and Issuer.

The class of equity security to which this statement on Schedule 13D relates is the common stock, par value \$0.0001 per share (the “Common Stock”) of ACADIA Pharmaceuticals Inc., a corporation organized under the laws of the state of Delaware (the “Issuer”). The address of the principal executive offices of the Issuer is 3911 Sorrento Valley Boulevard, San Diego, CA 92121. Information given in response to each item shall be deemed incorporated by reference in all other items, as applicable.

ITEM 2. Identity and Background.

(a) The Reporting Persons are:

1. Baker Bros. Advisors, LLC (the “Adviser”)
2. Felix J. Baker
3. Julian C. Baker

(b) The business address of each of the Reporting Persons is:

c/o Baker Bros. Advisors, LLC
667 Madison Avenue, 21st Floor
New York, NY 10065
(212) 339-5633

(c) The principal business of each of Julian C. Baker and Felix J. Baker is to serve as a managing member of the Adviser, an entity engaged in investment activities. Julian C. Baker and Felix J. Baker are managing members of the Adviser.

Certain securities of the Issuer are owned directly by 667, L.P. (“667”), a limited partnership the sole general partner of which is Baker Biotech Capital, L.P., a limited partnership the sole general partner of which is Baker Biotech Capital (GP), LLC. Julian C. Baker and Felix J. Baker are the controlling members of Baker Biotech Capital (GP), LLC.

Certain securities of the Issuer are owned directly by Baker Brothers Life Sciences, L.P. (“Life Sciences”), a limited partnership the sole general partner of which is Baker Brothers Life Sciences Capital, L.P., a limited partnership the sole general partner of which is Baker Brothers Life Sciences Capital (GP), LLC. Julian C. Baker and Felix J. Baker are the controlling members of Baker Brothers Life Sciences Capital (GP), LLC.

Certain securities of the Issuer are owned directly by 14159, L.P. (“14159”, and together with 667 and Life Sciences, the “Funds”), a limited partnership the sole general partner of which is 14159 Capital, L.P., a limited partnership the sole general partner of which is 14159 Capital (GP), LLC. Julian C. Baker and Felix J. Baker are the controlling members of 14159 Capital (GP), LLC.

(d) and (e) During the past five years, none of the Reporting Persons nor any of the persons listed in Item 2(b) and (c) above has been (i) convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors) or (ii) a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

(f) The Adviser is a limited liability company organized under the laws of the state of Delaware. The citizenship of each of Julian C. Baker and Felix J. Baker is the United States of America.

ITEM 3. Source and Amount of Funds or Other Consideration.

The disclosure in Item 4 and Item 5 below is incorporated herein by reference.

ITEM 4. Purpose of Transactions.

On December 12, 2012, the Issuer entered into a Securities Purchase Agreement (the "Purchase Agreement") by and among the Issuer and the Funds, along with certain other accredited investors. Pursuant to the Purchase Agreement, the Issuer agreed to sell to the Funds in a private placement an aggregate of 4,466,140 shares of Common Stock at a purchase price of \$4.43 per share and warrants to purchase 500,000 shares of Common Stock at an exercise price of \$0.01 per share at a purchase price of \$4.42 per warrant (the "2019 Warrants") for an aggregate purchase price of \$21,995,000.20 (the "Transaction"). Each of the 2019 Warrants is exercisable for one share of Common Stock. The 2019 Warrants become exercisable six months after the closing date of the Transaction and expire on the seventh anniversary of the closing date. The 2019 Warrants may be exercised for cash or, if the fair market value of the Common Stock is greater than the per share exercise price, by surrender of a portion of such 2019 Warrants in a cashless exercise. The Funds purchased the shares of Common Stock and the 2019 Warrants from available working capital.

Under the terms of the Purchase Agreement, the Issuer has agreed to file, within 30 days after the closing of the Transaction, a registration statement with the Securities and Exchange Commission to register for resale the shares of Common Stock purchased and the shares of Common Stock issuable upon the exercise of the 2019 Warrants, which registration statement is required under the Purchase Agreement to become effective no later than 120 days following the closing of the Transaction. The Issuer will be required to pay liquidated damages of 1.5% of the aggregate purchase price of the securities purchased in the Transaction per month (up to a cap of 10%) if it does not meet certain obligations with respect to the registration of the shares of Common Stock purchased and the shares of Common Stock issuable upon exercise of the 2019 Warrants.

The Funds purchased an aggregate of 4,466,140 shares of Common Stock and 500,000 2019 Warrants as follows:

<u>Fund</u>	<u>Shares</u>	<u>2019 Warrants</u>	<u>Price Paid</u>
667, L.P.	376,328	42,131	\$ 1,853,352.06
Baker Brothers Life Sciences, L.P.	3,993,957	447,138	\$ 19,669,579.47
14159, L.P.	95,855	10,731	\$ 472,068.67

The foregoing descriptions of the Purchase Agreement and the 2019 Warrants do not purport to be complete and are subject to, and qualified in their entirety by, reference to the full texts of the Purchase Agreement and the 2019 Warrants, a form of which is included as an exhibit to the Purchase Agreement. The Purchase Agreement is included as Exhibit 10.1 and is incorporated herein by reference.

The Funds hold the securities for investment purposes. Whether the Reporting Persons or their affiliates purchase any additional securities or dispose of any securities, and the amount and timing of any such transactions, will depend upon the Reporting Persons' continuing assessments of pertinent factors, including the availability of shares of Common Stock or other securities for purchase at particular price levels, the Issuer's business and prospects, other business investment opportunities, economic conditions, stock market conditions, money market conditions, the attitudes and actions of the board of directors and management of the Issuer, the availability and nature of opportunities to dispose of shares in the Issuer and other plans and requirements of the particular entities. The Reporting Persons may discuss items of mutual interest with the Issuer, which could include items in (a) through (j).

Depending upon their assessments of the above factors from time to time, the Reporting Persons or their affiliates may change their present intentions as stated above, including assessing whether to seek to nominate a member of the Issuer's Board of Directors, whether to make suggestions to the management of the Issuer regarding financing, and whether to acquire additional securities of the Issuer, including shares of Common Stock (by means of open market purchases, privately negotiated purchases, exercise of some or all of any warrants held, or otherwise) or to dispose of some or all of the securities of the Issuer, including shares of Common Stock, under their control. Except as otherwise disclosed herein, at the present time, the Reporting Persons do not have any plans or proposals with respect to any extraordinary corporate transaction involving the Issuer including, without limitation, those matters described in subparagraphs (a) through (j) of Item 4 of Schedule 13D.

ITEM 5. Interest in Securities of the Issuer.

(a) and (b) Items 7 through 11 and 13 of each of the cover pages of this Schedule 13D are incorporated herein by reference. Set forth below is the aggregate number of shares of Common Stock of the Issuer directly held by each of the Funds, which may be deemed to be indirectly beneficially owned by the Reporting Persons, as well as shares of Common Stock that may be acquired upon exercise of the 2019 Warrants and the 2018 Warrants (as defined below) by the Funds, subject to the limitations on exercise described below.

<u>Holder</u>	<u>Shares of Common Stock</u>	<u>2019 Warrants</u>	<u>2018 Warrants</u>
667, L.P.	1,045,475	42,131	-
Baker Brothers Life Sciences, L.P.	14,229,612	447,138	1,426,590
14159, L.P.	346,725	10,731	39,378
Total	15,621,812	500,000	1,465,968

The 2019 Warrants are only exercisable to the extent that after giving effect to such exercise the holders thereof and their affiliates would beneficially own, for purposes of Rule 13d-3 under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), no more than 19.99% of the outstanding shares of Common Stock of the Issuer. As a result of this restriction, the number of shares that may be issued upon exercise of the 2019 Warrants by the above holders may change depending upon changes in the outstanding shares of Common Stock.

Prior to the Transaction, the Funds in January 2011 in the aggregate purchased from the Issuer 4,188,482 shares of Common Stock and warrants to purchase 1,465,968 shares of Common Stock (the "2018 Warrants"). Additionally, the Funds hold an aggregate of 7,183,688 shares of Common Stock that were purchased in transactions effected in open market acquired in the ordinary course of business.

The 2018 Warrants are only exercisable to the extent that giving effect to such exercise would not cause the holders thereof and their affiliates to beneficially own, for purposes of Rule 13d-3 under the Exchange Act, in excess of 9.9% of the outstanding shares of Common Stock of the Issuer. As a result of this restriction, the number of shares that may be issued on exercise of the 2018 Warrants by the above holders may change depending upon changes in the outstanding shares of Common Stock.

On April 12, 2012, the Adviser, each of the Funds, and the general partners of the Funds entered into an amended and restated management agreement (the "Management Agreement") which gave the Adviser complete and unlimited discretion and authority with respect to the Funds' investments and voting power over investments. The general partners of the Funds relinquished all discretion and authority with respect to the Funds' investments and voting power over investments. In connection with the services provided by the Adviser to the Funds, the Adviser receives a management based fee that does not confer any pecuniary interest.

The Adviser, and Felix J. Baker and Julian C. Baker as principals of the Adviser, may be deemed to be beneficial owners of securities of the Issuer directly held by the Funds, and may be deemed to have the power to vote or direct the vote of and the power to dispose or direct the disposition of such securities.

The Reporting Persons disclaim beneficial ownership of the securities held by each of the Funds, and this Schedule 13D shall not be deemed an admission that the Reporting Persons are the beneficial owners of such securities for purposes of Section 13(d) or for any other purpose.

(c) The following transactions in the Issuer's Common Stock were effected by the Funds noted below during the past 60 days using working capital of the applicable purchasing Fund. All transactions were effected either pursuant to the Transaction described in Item 4 or in the open market directly with a broker-dealer. Except as disclosed herein, none of the Reporting Persons or their affiliates has effected any other transactions in securities of the Issuer during the past 60 days.

Name	Date	Number of Shares	Transaction	Price/ Share
667, L.P.	11/26/12	(2,566)	Sale	2.1539
Baker Brothers Life Sciences, L.P.	11/26/12	(139,323)	Sale	2.1539
14159, L.P.	11/26/12	(3,516)	Sale	2.1539
667, L.P.	11/27/12	(3,802)	Sale	2.1817
Baker Brothers Life Sciences, L.P.	11/27/12	(206,389)	Sale	2.1817
14159, L.P.	11/27/12	(5,209)	Sale	2.1817
667, L.P.	11/28/12	(3,964)	Sale	2.1871
Baker Brothers Life Sciences, L.P.	11/28/12	(215,204)	Sale	2.1871
14159, L.P.	11/28/12	(5,432)	Sale	2.1871
667, L.P.	11/29/12	(6,711)	Sale	2.2941
Baker Brothers Life Sciences, L.P.	11/29/12	(364,329)	Sale	2.2941
14159, L.P.	11/29/12	(9,195)	Sale	2.2941
667, L.P.	11/30/12	118,720	Purchase	6.4296
Baker Brothers Life Sciences, L.P.	11/30/12	1,226,810	Purchase	6.4296
14159, L.P.	11/30/12	29,470	Purchase	6.4296
667, L.P.	11/30/12	474,881	Purchase	5.5883
Baker Brothers Life Sciences, L.P.	11/30/12	4,907,239	Purchase	5.5883
14159, L.P.	11/30/12	117,880	Purchase	5.5883
667, L.P.	12/12/12	376,328	Purchase	4.4300
Baker Brothers Life Sciences, L.P.	12/12/12	3,993,957	Purchase	4.4300
14159, L.P.	12/12/12	95,855	Purchase	4.4300

(d) Not applicable.

(e) Not applicable.

ITEM 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer.

The disclosure regarding the Purchase Agreement and the 2019 Warrants contained in Item 4 is incorporated herein by reference.

The Purchase Agreement (which includes a form of the 2019 Warrants as an exhibit) is incorporated by reference as Exhibits 10.1 to this Schedule 13D and is incorporated herein by reference.

Item 7. Material to Be Filed as Exhibits.

Exhibit Description

- | | |
|------|---|
| 10.1 | Securities Purchase Agreement, dated as of December 12, 2012, by and among ACADIA Pharmaceuticals Inc. and certain purchasers identified in Exhibit A thereto (Incorporated by reference to Exhibit 99.1 of the Issuer's Current Report on Form 8-K (File No. 000-50768), filed with the SEC on December 18, 2012). |
| 99.1 | Agreement Regarding the Joint Filing of Schedule 13D by and among the Reporting Persons |

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

December 21, 2012

BAKER BROS. ADVISORS, LLC

By: /s/ Scott L. Lessing
Name: Scott L. Lessing
Title: President

By: /s/ Julian C. Baker
Julian C. Baker

By: /s/ Felix J. Baker
Felix J. Baker

JOINT FILING AGREEMENT

Pursuant to Rule 13d-1(k)(1) under the Securities Exchange Act of 1934, as amended, the undersigned hereby agree that only one statement containing the information required by Schedule 13D need be filed with respect to the ownership by each of the undersigned of the shares of Common Stock of Acadia Pharmaceuticals, Inc.

This Agreement may be executed in any number of counterparts, each of which shall be deemed an original.

EXECUTED as of this 21st day of December, 2012.

BAKER BROS. ADVISORS, LLC

By: /s/ Scott L. Lessing
Name: Scott L. Lessing
Title: President

/s/ Julian C. Baker
Julian C. Baker

/s/ Felix J. Baker
Felix J. Baker