

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

SCHEDULE 13G
UNDER THE SECURITIES EXCHANGE ACT OF 1934
(AMENDMENT NO. 5)*

Acadia Pharmaceuticals Inc.

(Name of Issuer)

Common Stock, \$.0001 par value per share

(Title of Class of Securities)

004225108

(CUSIP Number)

December 31, 2009

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- Rule 13d-1(b)
 Rule 13d-1(c)
 Rule 13d-1(d)

*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 the disclosures provided in a prior cover page.

The information required in 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 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

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CUSIP NO.	004225108	13G	PAGE 2 OF 12
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1 NAMES OF REPORTING PERSONS
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)

OXFORD BIOSCIENCE PARTNERS IV L.P.

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a)
(b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

	5	SOLE VOTING POWER	0
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	6	SHARED VOTING POWER	3,422,717
	7	SOLE DISPOSITIVE POWER	0
	8	SHARED DISPOSITIVE POWER	3,422,717

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON
3,422,717

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)
8.9%

12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)
PN

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1 NAMES OF REPORTING PERSONS
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)

mRNA FUND II L.P.

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a)
(b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

5 SOLE VOTING POWER

0

NUMBER OF
SHARES
BENEFICIALLY
OWNED BY
EACH
REPORTING
PERSON
WITH:

6 SHARED VOTING POWER

3,422,717

7 SOLE DISPOSITIVE POWER

0

8 SHARED DISPOSITIVE POWER

3,422,717

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,422,717

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES
(SEE INSTRUCTIONS)

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

8.9%

12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

PN

=====
1 NAMES OF REPORTING PERSONS
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)

OBP MANAGEMENT IV L.P.

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a)
(b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

5 SOLE VOTING POWER

0

NUMBER OF
SHARES
BENEFICIALLY
OWNED BY
EACH
REPORTING
PERSON
WITH:

6 SHARED VOTING POWER

3,422,717

7 SOLE DISPOSITIVE POWER

0

8 SHARED DISPOSITIVE POWER

3,422,717

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,422,717

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES
(SEE INSTRUCTIONS)

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

8.9%

12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

PN
=====

=====
1 NAMES OF REPORTING PERSONS
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)

JONATHAN J. FLEMING

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a)
(b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

United States

5 SOLE VOTING POWER

0

NUMBER OF
SHARES
BENEFICIALLY
OWNED BY
EACH
REPORTING
PERSON
WITH:

6 SHARED VOTING POWER

3,422,717

7 SOLE DISPOSITIVE POWER

0

8 SHARED DISPOSITIVE POWER

3,422,717

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,422,717

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES
(SEE INSTRUCTIONS)

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

8.9%

12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

IN

=====
1 NAMES OF REPORTING PERSONS
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)

ALAN G. WALTON

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a)
(b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

United States

5 SOLE VOTING POWER

100,909

NUMBER OF SHARES 6 SHARED VOTING POWER

3,422,717

BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:

7 SOLE DISPOSITIVE POWER

100,909

8 SHARED DISPOSITIVE POWER

3,422,717

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,523,626

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES
(SEE INSTRUCTIONS)

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

9.2%

12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

IN

ITEM 1(a). NAME OF ISSUER:

Acadia Pharmaceuticals Inc. (the "Issuer")

ITEM 1(b). ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES:

3911 Sorrento Valley Boulevard, San Diego, CA 92121

ITEM 2(a). NAMES OF PERSONS FILING:

Oxford Bioscience Partners IV L.P. ("Oxford IV") and mRNA Fund II L.P. ("mRNA II") (collectively, the "Funds"); OBP Management IV L.P. ("OBP IV"), which is the sole general partner of the Funds; and Jonathan J. Fleming ("Fleming") and Alan G. Walton ("Walton") (together, the "General Partners"), who are the general partners of OBP IV. The persons named in this paragraph are referred to individually herein as a "Reporting Person" and collectively as the "Reporting Persons."

ITEM 2(b). ADDRESS OF PRINCIPAL BUSINESS OFFICE OR, IF NONE, RESIDENCE:

The address of the principal business office of Oxford IV, mRNA II, OBP IV and Fleming is 222 Berkeley Street, Suite 1650, Boston, Massachusetts 02116. The address of the principal business office of Walton is 191 Post Road West, Westport, Connecticut 06880.

ITEM 2(c). CITIZENSHIP:

The Funds and OBP IV are limited partnerships organized under the laws of the State of Delaware. Each of the General Partners is a United States citizen.

ITEM 2(d). TITLE OF CLASS OF SECURITIES:

Common Stock, \$.0001 par value ("Common Stock").

ITEM 2(e). CUSIP NUMBER:

004225108.

ITEM 3. IF THIS STATEMENT IS FILED PURSUANT TO SS.SS. 240.13d-1(b) OR

240.13d-2(b) OR (c), CHECK WHETHER THE PERSON FILING IS A:

Not applicable.

ITEM 4. OWNERSHIP.

(a) Amount Beneficially Owned: Oxford IV is the record owner of 3,396,738 shares of Common Stock as of December 31, 2009 (the "Oxford IV Shares"). As the sole general partner of Oxford IV, OBP IV may be deemed to own beneficially the Oxford IV Shares. As the individual general partners of OBP IV, the sole general partner of Oxford IV, each of the General Partners may also be deemed to own beneficially Oxford IV Shares.

mRNA II is the record owner of 25,979 shares of Common Stock as of December 31, 2009 (the "mRNA II Shares"). As the sole general partner of mRNA II, OBP IV may be deemed to own beneficially the mRNA II Shares. As the individual general partners of OBP IV, the sole general partner of mRNA II, each of the General Partners may also be deemed to own beneficially mRNA II Shares.

By virtue of their relationship as affiliated entities, whose controlling entities have overlapping individual controlling persons, each of the Reporting Persons may be deemed to share the power to direct the disposition and vote of the Oxford IV Shares and the mRNA II Shares for an aggregate of 3,422,717 shares (the "Firm Shares").

As of December 31, 2009, Walton is the record owner of options to purchase 100,909 shares of Common Stock (the "Option Shares") exercisable within sixty days.

- (b) Percent of Class: See Line 11 of the cover sheets. The percentages set forth on the cover sheets for each Reporting Person other than Walton are calculated based on 38,266,843 shares of Common Stock reported to be outstanding by the Issuer in Form 10-Q as filed with the Securities and Exchange Commission on November 9, 2009 for the period ending September 30, 2009 (the "Reported Shares"). Walton's percentage is calculated based on 38,367,752 shares, which includes the Reported Shares and the Option Shares.
- (c) Number of shares as to which such person has:
 - (i) Sole power to vote or to direct the vote: See Line 5 of cover sheets.
 - (ii) Shared power to vote or to direct the vote: See Line 6 of cover sheets.
 - (iii) Sole power to dispose or to direct the disposition of: See Line 7 of cover sheets.
 - (iv) Shared power to dispose or to direct the disposition of: See Line 8 of cover sheets.

Each Reporting Person disclaims beneficial ownership of such shares of Common Stock, except for the shares, if any, such Reporting Person holds of record.

ITEM 5. OWNERSHIP OF FIVE PERCENT OR LESS OF A CLASS.

Each of Michael Lytton and Jeffrey Barnes has ceased to beneficially own five percent (5%) or more of the Issuer's Common Stock and as of December 31, 2009.

ITEM 6. OWNERSHIP OF MORE THAN FIVE PERCENT ON BEHALF OF ANOTHER PERSON.

Not applicable.

ITEM 7. IDENTIFICATION AND CLASSIFICATION OF THE SUBSIDIARY WHICH ACQUIRED

THE SECURITY BEING REPORTED ON BY THE PARENT HOLDING COMPANY.

Not applicable.

ITEM 8. IDENTIFICATION AND CLASSIFICATION OF MEMBERS OF THE GROUP.

Not applicable. The Reporting Persons expressly disclaim membership in a "group" as used in Rule 13d-5(b).

ITEM 9. NOTICE OF DISSOLUTION OF GROUP.

Not applicable.

ITEM 10. CERTIFICATION.

Not applicable. This statement on Schedule 13G is not filed
pursuant to Rule 13d-1(b) or Rule 13d-1(c).

SIGNATURE

After reasonable inquiry and to the best of its knowledge and belief,
each of the undersigned certifies that the information set forth in this
statement is true, complete and correct.

Date: February 1, 2010.

OXFORD BIOSCIENCE PARTNERS IV L.P.

By: OBP MANAGEMENT IV L.P.
General Partner

By: *

Jonathan J. Fleming
General Partner

mRNA FUND II L.P.

By: OBP MANAGEMENT IV L.P.
General Partner

By: *

Jonathan J. Fleming
General Partner

OBP MANAGEMENT IV L.P.

By: *

Jonathan J. Fleming
General Partner

*

Jonathan J. Fleming

*

Alan G. Walton

*By: /s/ Raymond Charest

Raymond Charest
As attorney-in-fact

This Amendment No. 5 to Schedule 13G was executed by Raymond Charest on behalf
of the individuals listed above pursuant to a Power of Attorney, a copy of
which is attached as Exhibit 2.

AGREEMENT

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

EXECUTED this 1st day of February, 2010.

OXFORD BIOSCIENCE PARTNERS IV L.P.

By: OBP MANAGEMENT IV L.P.
General Partner

By: *

Jonathan J. Fleming
General Partner

mRNA FUND II L.P.

By: OBP MANAGEMENT IV L.P.
General Partner

By: *

Jonathan J. Fleming
General Partner

OBP MANAGEMENT IV L.P.

By: *

Jonathan J. Fleming
General Partner

*

Jonathan J. Fleming

*

Alan G. Walton

*By: /s/ Raymond Charest

Raymond Charest
As attorney-in-fact

This Agreement was executed by Raymond Charest on behalf of the individuals listed above pursuant to a Power of Attorney, a copy of which is attached as Exhibit 2.

EXHIBIT 2

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that the undersigned hereby constitutes and appoints Raymond Charest, Alexia Pearsall and Jonathan J. Fleming and each of them, with full power to act without the others, his true and lawful attorney-in-fact, with full power of substitution, to sign any and all instruments, certificates and documents that may be necessary, desirable or appropriate to be executed on behalf of himself as an individual or in his capacity as a direct or indirect general partner, director, officer or manager of any partnership, corporation or limited liability company, pursuant to section 13 or 16 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and any and all regulations promulgated thereunder, and to file the same, with all exhibits thereto, and any other documents in connection therewith, with the Securities and Exchange Commission, and with any other entity when and if such is mandated by the Exchange Act or by the Financial Industry Regulatory Authority, granting unto said attorney-in-fact full power and authority to do and perform each and every act and thing necessary, desirable or appropriate, fully to all intents and purposes as he might or could do in person, thereby ratifying and confirming all that said attorney-in-fact, or his substitutes, may lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, this Power of Attorney has been signed as of the 28th day of January, 2010.

/s/ Jonathan J. Fleming

Jonathan J. Fleming

/s/ Alan G. Walton

Alan G. Walton