

**UNITED STATES
SECURITIES AND EXCHANGE
COMMISSION**

Washington, D.C. 20549

SCHEDULE 13G

OMB APPROVAL

OMB Number:
3235-0145

Expires:
December 31, 2005

Estimated average burden
hours per response. . 11

Under the Securities Exchange Act of 1934
(Amendment No.)*

ACADIA PHARMACEUTICALS INC.

(Name of Issuer)

Common Stock, \$0.0001 Par Value

(Title of Class of Securities)

US0042251084

(CUSIP Number)

December 31, 2004

(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).

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

Number of
Shares
Beneficially
Owned by
Each
Reporting
Person With

5. Sole Voting Power
0 shares

6. Shared Voting Power
2,599,815 shares

7. Sole Dispositive Power
0 shares

8. Shared Dispositive Power
2,599,815 shares

9. Aggregate Amount Beneficially Owned by Each Reporting Person
2,599,815 shares

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

11. Percent of Class Represented by Amount in Row (9)
15.41%

12. Type of Reporting Person (See Instructions)
PN

CUSIP No. US0042251084

13G

Page 3 of 17 Pages

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 shares

Number of
Shares
Beneficially
Owned by
Each
Reporting
Person With

6. Shared Voting Power
2,599,815 shares

7. Sole Dispositive Power
0 shares

8. Shared Dispositive Power
2,599,815 shares

9. Aggregate Amount Beneficially Owned by Each Reporting Person
2,599,815 shares

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

11. Percent of Class Represented by Amount in Row (9)
15.41%

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 shares

Number of
Shares
Beneficially
Owned by
Each
Reporting
Person With

6. Shared Voting Power
2,599,815 shares

7. Sole Dispositive Power
0 shares

8. Shared Dispositive Power
2,599,815 shares

9. Aggregate Amount Beneficially Owned by Each Reporting Person
2,599,815 shares

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

11. Percent of Class Represented by Amount in Row (9)
15.41%

12. Type of Reporting Person (See Instructions)
PN

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only)
Jeffrey T. Barnes

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 shares
Number of Shares Beneficially Owned by Each Reporting Person With	6.	Shared Voting Power 2,599,815 shares
	7.	Sole Dispositive Power 0 shares
	8.	Shared Dispositive Power 2,599,815 shares
	9.	Aggregate Amount Beneficially Owned by Each Reporting Person 2,599,815 shares
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) <input type="radio"/>	
11.	Percent of Class Represented by Amount in Row (9) 15.41%	
12.	Type of Reporting Person (See Instructions) IN	

CUSIP No. US0042251084

13G

Page 6 of 17 Pages

1.	Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only) Mark P. Carthy	
2.	Check the Appropriate Box if a Member of a Group (See Instructions)	
	(a)	<input type="radio"/>
	(b)	<input type="radio"/>
3.	SEC Use Only	
4.	Citizenship or Place of Organization United States	
	5.	Sole Voting Power 0 shares
Number of Shares Beneficially Owned by Each Reporting Person With	6.	Shared Voting Power 2,599,815 shares
	7.	Sole Dispositive Power 0 shares
	8.	Shared Dispositive Power 2,599,815 shares
	9.	Aggregate Amount Beneficially Owned by Each Reporting Person 2,599,815 shares
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) <input type="radio"/>	

11. Percent of Class Represented by Amount in Row (9)
15.41%

12. Type of Reporting Person (See Instructions)
IN

CUSIP No. US0042251084

13G

Page 7 of 17 Pages

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 shares

Number of
Shares
Beneficially
Owned by
Each
Reporting
Person With

6. Shared Voting Power
2,599,815 shares

7. Sole Dispositive Power
0 shares

8. Shared Dispositive Power
2,599,815 shares

9. Aggregate Amount Beneficially Owned by Each Reporting Person
2,599,815 shares

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

11. Percent of Class Represented by Amount in Row (9)
15.41%

12. Type of Reporting Person (See Instructions)
IN

CUSIP No. US0042251084

13G

Page 8 of 17 Pages

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only)
Michael E. Lytton

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b) o

3. SEC Use Only

4. Citizenship or Place of Organization
United States

5. Sole Voting Power
0 shares

6. Shared Voting Power
2,599,815 shares

7. Sole Dispositive Power
0 shares

8. Shared Dispositive Power
2,599,815 shares

Number of
Shares
Beneficially
Owned by
Each
Reporting
Person With

9. Aggregate Amount Beneficially Owned by Each Reporting Person
2,599,815 shares

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) o

11. Percent of Class Represented by Amount in Row (9)
15.41%

12. Type of Reporting Person (See Instructions)
IN

CUSIP No. US0042251084

13G

Page 9 of 17 Pages

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) o

(b) o

3. SEC Use Only

4. Citizenship or Place of Organization
United States

5. Sole Voting Power
9,000 shares

6. Shared Voting Power
2,599,815 shares

7. Sole Dispositive Power
9,000 shares

Number of
Shares
Beneficially
Owned by
Each
Reporting
Person With

8. Shared Dispositive Power
2,599,815 shares

9. Aggregate Amount Beneficially Owned by Each Reporting Person
2,599,815 shares

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

11. Percent of Class Represented by Amount in Row (9)
15.46%

12. Type of Reporting Person (See Instructions)
IN

CUSIP No. US0042251084

13G

Page 10 of 17 Pages

Schedule 13G

NOTE: This Statement on Schedule 13G is being filed on behalf of: (i) Oxford Bioscience Partners IV L.P., a Delaware limited partnership; (ii) mRNA Fund II L.P., a Delaware limited partnership; (iii) OBP Management IV L.P., a Delaware limited partnership; (iv) Jeffrey T. Barnes; (v) Mark P. Carthy; (vi) Jonathan J. Fleming; (vii) Michael E. Lytton; and (viii) Alan G. Walton.

Item 1.

- (a) Name of Issuer
Acadia Pharmaceuticals Inc.
- (b) Address of Issuer's Principal Executive Offices
3911 Sorrento Valley Boulevard, San Diego, California, 92121

Item 2.

<u>Item 2(a)</u> <u>Name of Person Filing</u>	<u>Item 2(b)</u> <u>Address</u>	<u>Item 2(c)</u> <u>Citizenship or Place of Organization</u>
Oxford Bioscience Partners IV L.P. ("Oxford IV")	Oxford Bioscience Partners 222 Berkeley St. Boston, MA 02116	Delaware
mRNA Fund II L.P. ("mRNA II")	Oxford Bioscience Partners 222 Berkeley St. Boston, MA 02116	Delaware
OBP Management IV L.P. ("OBP IV"), the general partner of Oxford IV and mRNA II	Oxford Bioscience Partners 222 Berkeley St. Boston, MA 02116	Delaware
Jeffrey T. Barnes, a general partner of OBP IV	Oxford Bioscience Partners 222 Berkeley St. Boston, MA 02116	United States
Mark P. Carthy, a general partner of OBP IV	Oxford Bioscience Partners 222 Berkeley St. Boston, MA 02116	United States
Jonathan J. Fleming, a general partner of OBP IV	Oxford Bioscience Partners 222 Berkeley St. Boston, MA 02116	United States
Michael E. Lytton, a general partner of OBP IV	Oxford Bioscience Partners 222 Berkeley St. Boston, MA 02116	United States
Alan G. Walton, a general partner of OBP IV	Oxford Bioscience Partners 315 Post Rd. West Westport, CT 06880	United States

- (d) Title of Class of Securities
Common Stock, \$0.0001 par value.
- (e) CUSIP Number
US0042251084

Item 3. If this statement is filed pursuant to §§240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:

- (a) Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o).
- (b) Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c).
- (c) Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c).
- (d) Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C 80a-8).
- (e) An investment adviser in accordance with §240.13d-1(b)(1)(ii)(E);
- (f) An employee benefit plan or endowment fund in accordance with §240.13d-1(b)(1)(ii)(F);
- (g) A parent holding company or control person in accordance with § 240.13d-1(b)(1)(ii)(G);
- (h) A savings associations as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);
- (i) A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);
- (j) Group, in accordance with §240.13d-1(b)(1)(ii)(J).

Not applicable.

Item 4. Ownership

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

- (a) Amount beneficially owned:
As of December 31, 2004 each of the following is the owner of record of the number of shares of Common Stock, \$0.0001 of Acadia Pharmaceuticals Inc. set forth next to his or its name:

Oxford IV:	2,573,836 Shares
mRNA II:	25,979 Shares
OBP IV:	0 Shares
Mr. Barnes:	0 Shares
Mr. Carthy:	0 Shares
Mr. Fleming:	0 Shares
Mr. Lytton:	0 Shares
Mr. Walton:	9,000 Shares

By virtue of their relationship as affiliated limited partnerships, whose sole general partner shares individual general partners, Oxford IV and mRNA II may be deemed to share voting power and the power to direct the disposition of the shares which each partnership owns of record. OBP IV (as the general partner of Oxford IV and mRNA II), may also be deemed to own beneficially the shares held of record by Oxford IV and mRNA II. Each of Messrs. Barnes, Carthy, Fleming, Lytton, and Walton, the individual general partners of OBP IV, may be deemed to own beneficially the shares held by Oxford IV and mRNA II. Note that 9,000 of the beneficially owned shares of Walton consist of shares issuable upon the exercise of options to purchase shares, which are immediately exercisable.

- (b) Percent of class:

Oxford IV:	15.41%
mRNA II:	15.41%
OBP IV:	15.41%

Mr. Barnes:	15.41%
Mr. Carthy:	15.41%
Mr. Fleming:	15.41%
Mr. Lytton:	15.41%
Mr. Walton:	15.46%

The foregoing percentages are calculated based on the 16,866,979 shares of Common Stock reported to be outstanding as of October 31, 2004 in the Quarterly Report on Form 10-Q of Acadia Pharmaceuticals Inc. for the quarter ended September 30, 2004 (as adjusted pursuant to Rule 13d-3(d)(1)).

(c) Number of shares as to which the person has:

(i) Sole power to vote or to direct the vote

Oxford IV:	0 Shares
mRNA II:	0 Shares
OBP IV:	0 Shares
Mr. Barnes:	0 Shares
Mr. Carthy:	0 Shares
Mr. Fleming:	0 Shares
Mr. Lytton:	0 Shares
Mr. Walton:	9,000 Shares

(ii) Shared power to vote or to direct the vote

Oxford IV:	2,599,815 Shares
mRNA II:	2,599,815 Shares
OBP IV:	2,599,815 Shares
Mr. Barnes:	2,599,815 Shares
Mr. Carthy:	2,599,815 Shares
Mr. Fleming:	2,599,815 Shares
Mr. Lytton:	2,599,815 Shares
Mr. Walton:	2,599,815 Shares

(iii) Sole power to dispose or to direct the disposition of

Oxford IV:	0 Shares
mRNA II:	0 Shares
OBP IV:	0 Shares
Mr. Barnes:	0 Shares
Mr. Carthy:	0 Shares
Mr. Fleming:	0 Shares
Mr. Lytton:	0 Shares
Mr. Walton:	9,000 Shares

(iv) Shared power to dispose or to direct the disposition of

Oxford IV:	2,599,815 Shares
mRNA II:	2,599,815 Shares
OBP IV:	2,599,815 Shares
Mr. Barnes:	2,599,815 Shares
Mr. Carthy:	2,599,815 Shares
Mr. Fleming:	2,599,815 Shares
Mr. Lytton:	2,599,815 Shares
Mr. Walton:	2,599,815 Shares

Each of Oxford IV, mRNA II, OBP IV, and Messrs. Barnes, Carthy, Fleming, Lytton and Walton expressly disclaims beneficial ownership of any shares of the Common Stock of Acadia Pharmaceuticals Inc., except to the extent of his or its pecuniary interest therein and any shares held directly of record.

CUSIP No. US0042251084

13G

Page 13 of 17 Pages

Item 5. Ownership of Five Percent or Less of a Class

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following .

Not applicable.

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 or Control Person

Not applicable.

Item 8. Identification and Classification of Members of the Group

Not applicable. Oxford IV, mRNA II, OBP IV, Messrs. Barnes, Carthy, Fleming, Lytton and Walton expressly disclaim membership in a "group" as used in Rule 13d 1(b)(ii)(J) of the Act.

Item 9. Notice of Dissolution of Group

Not applicable.

CUSIP No. US0042251084

13G

Page 14 of 17 Pages

Item 10. Certification

By signing below each of Oxford IV, mRNA II, OBP IV, and Messrs. Barnes, Carthy, Fleming, Lytton and Walton certify that, to the best of its or his knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

CUSIP No. US0042251084

13G

Page 15 of 17 Pages

Signature

After reasonable inquiry and to the best of his, her or its knowledge and belief, each of the undersigned certifies that the information set forth in this statement is true, complete and correct. We also hereby agree to file this statement jointly pursuant to the agreement set forth as [Exhibit 1](#).

Dated: February 14, 2005

OXFORD BIOSCIENCE PARTNERS IV L.P.

By: OBP Management IV L.P., its general partner

By: /s/ Jonathan J. Fleming

Jonathan J. Fleming
General Partner

MRNA FUND II L.P.

By: OBP Management IV L.P., its general partner

By: /s/ Jonathan J. Fleming

Jonathan J. Fleming
General Partner

OBP MANAGEMENT IV L.P.

By: /s/ Jonathan J. Fleming

Jonathan J. Fleming
General Partner

/s/ Jeffrey T. Barnes

Jeffrey T. Barnes

/s/ Mark P. Carthy

Mark P. Carthy

/s/ Jonathan J. Fleming

Jonathan J. Fleming

/s/ Michael E. Lytton

Michael E. Lytton

/s/ Alan G. Walton

Alan G. Walton

CUSIP No. US0042251084

13G

Page 16 of 17 Pages

Exhibit 1

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 Common Stock of Acadia Pharmaceuticals Inc.

Dated: February 14, 2005

OXFORD BIOSCIENCE PARTNERS IV L.P.

By: OBP Management IV L.P., its general partner

By: /s/ Jonathan J. Fleming

Jonathan J. Fleming

General Partner

MRNA FUND II L.P.

By: OBP Management IV L.P., its general partner

By: /s/ Jonathan J. Fleming

Jonathan J. Fleming

General Partner

OBP MANAGEMENT IV L.P.

By: /s/ Jonathan J. Fleming

Jonathan J. Fleming

General Partner

/s/ Jeffrey T. Barnes

Jeffrey T. Barnes

/s/ Mark P. Carthy

Mark P. Carthy

/s/ Jonathan J. Fleming

Jonathan J. Fleming

/s/ Michael E. Lytton

Michael E. Lytton

/s/ Alan G. Walton

Alan G. Walton

CUSIP No. US0042251084

13G

Page 17 of 17 Pages