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

SCHEDULE 13G

**UNDER THE SECURITIES EXCHANGE ACT OF 1934
(Amendment No. __)***

ACADIA PHARMACEUTICALS INC.

(Name of Issuer)

COMMON STOCK
(Title of Class of Securities)

004225108
(CUSIP Number)

December 31, 2011
(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.	Name of Reporting Persons Venrock Healthcare Capital Partners, L.P.
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input checked="" type="checkbox"/> ¹ (b) <input type="checkbox"/>
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
	6. Shared Voting Power 4,523,559²
	7. Sole Dispositive Power 0
	8. Shared Dispositive Power 4,523,559²
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 4,523,559²
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)
11.	Percent of Class Represented by Amount in Row (9) 8.4%³
12.	Type of Reporting Person (See Instructions) PN

¹ Venrock Healthcare Capital Partners, L.P., VHCP Co-Investment Holdings, LLC, VHCP Management, LLC, Anders Hove and Bryan Roberts are members of a group for the purposes of this Schedule 13G.

² Consists of 2,832,754 shares of common stock and warrants to purchase 991,463 shares of common stock owned by Venrock Healthcare Capital Partners, L.P. and 518,031 shares of common stock and warrants to purchase 181,311 shares of common stock owned by VHCP Co-Investment Holdings, LLC.

³ This percentage is calculated based upon the number of the Issuer's total outstanding shares equal to the sum of (i) 52,800,919 shares of the Issuer's common stock outstanding as of October 31, 2011, as set forth in the Issuer's quarterly report on Form 10-Q filed with the Securities and Exchange Commission on November 9, 2011 and (ii) 1,172,774 shares of common stock underlying warrants owned by the Reporting Persons.

1.	Name of Reporting Persons VHCP Co-Investment Holdings, LLC
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input checked="" type="checkbox"/> ¹ (b) <input type="checkbox"/>
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
	6. Shared Voting Power 4,523,559 ²
	7. Sole Dispositive Power 0
	8. Shared Dispositive Power 4,523,559 ²
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 4,523,559 ²
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)
11.	Percent of Class Represented by Amount in Row (9) 8.4% ³
12.	Type of Reporting Person (See Instructions) OO

¹ Venrock Healthcare Capital Partners, L.P., VHCP Co-Investment Holdings, LLC, VHCP Management, LLC, Anders Hove and Bryan Roberts are members of a group for the purposes of this Schedule 13G.

² Consists of 2,832,754 shares of common stock and warrants to purchase 991,463 shares of common stock owned by Venrock Healthcare Capital Partners, L.P. and 518,031 shares of common stock and warrants to purchase 181,311 shares of common stock owned by VHCP Co-Investment Holdings, LLC.

³ This percentage is calculated based upon the number of the Issuer's total outstanding shares equal to the sum of (i) 52,800,919 shares of the Issuer's common stock outstanding as of October 31, 2011, as set forth in the Issuer's quarterly report on Form 10-Q filed with the Securities and Exchange Commission on November 9, 2011 and (ii) 1,172,774 shares of common stock underlying warrants owned by the Reporting Persons.

1.	Name of Reporting Persons VHCP Management, LLC
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input checked="" type="checkbox"/> ¹ (b) <input type="checkbox"/>
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
	6. Shared Voting Power 4,523,559 ²
	7. Sole Dispositive Power 0
	8. Shared Dispositive Power 4,523,559 ²
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 4,523,559 ²
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)
11.	Percent of Class Represented by Amount in Row (9) 8.4% ³
12.	Type of Reporting Person (See Instructions) OO

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² Consists of 2,832,754 shares of common stock and warrants to purchase 991,463 shares of common stock owned by Venrock Healthcare Capital Partners, L.P. and 518,031 shares of common stock and warrants to purchase 181,311 shares of common stock owned by VHCP Co-Investment Holdings, LLC. VHCP Management, LLC is the general partner of Venrock Healthcare Capital Partners, L.P. and the manager of VHCP Co-Investment Holdings, LLC.

³ This percentage is calculated based upon the number of the Issuer's total outstanding shares equal to the sum of (i) 52,800,919 shares of the Issuer's common stock outstanding as of October 31, 2011, as set forth in the Issuer's quarterly report on Form 10-Q filed with the Securities and Exchange Commission on November 9, 2011 and (ii) 1,172,774 shares of common stock underlying warrants owned by the Reporting Persons.

1.	Name of Reporting Persons Hove, Anders
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input checked="" type="checkbox"/> ¹ (b) <input type="checkbox"/>
3.	SEC USE ONLY
4.	Citizenship or Place of Organization United States
Number of Shares Beneficially Owned by Each Reporting Person With:	5. Sole Voting Power 0
	6. Shared Voting Power 4,523,559²
	7. Sole Dispositive Power 0
	8. Shared Dispositive Power 4,523,559²
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 4,523,559²
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)
11.	Percent of Class Represented by Amount in Row (9) 8.4%³
12.	Type of Reporting Person (See Instructions) IN

¹ Venrock Healthcare Capital Partners, L.P., VHCP Co-Investment Holdings, LLC, VHCP Management, LLC, Anders Hove and Bryan Roberts are members of a group for the purposes of this Schedule 13G.

² Consists of 2,832,754 shares of common stock and warrants to purchase 991,463 shares of common stock owned by Venrock Healthcare Capital Partners, L.P. and 518,031 shares of common stock and warrants to purchase 181,311 shares of common stock owned by VHCP Co-Investment Holdings, LLC. VHCP Management, LLC is the general partner of Venrock Healthcare Capital Partners, L.P. and the manager of VHCP Co-Investment Holdings, LLC. Messrs. Hove and Roberts are the managing members of VHCP Management, LLC.

³ This percentage is calculated based upon the number of the Issuer's total outstanding shares equal to the sum of (i) 52,800,919 shares of the Issuer's common stock outstanding as of October 31, 2011, as set forth in the Issuer's quarterly report on Form 10-Q filed with the Securities and Exchange Commission on November 9, 2011 and (ii) 1,172,774 shares of common stock underlying warrants owned by the Reporting Persons.

1.	Name of Reporting Persons Roberts, Bryan
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input checked="" type="checkbox"/> ¹ (b) <input type="checkbox"/>
3.	SEC USE ONLY
4.	Citizenship or Place of Organization United States
Number of Shares Beneficially Owned by Each Reporting Person With:	5. Sole Voting Power 0
	6. Shared Voting Power 4,523,559²
	7. Sole Dispositive Power 0
	8. Shared Dispositive Power 4,523,559²
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 4,523,559²
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)
11.	Percent of Class Represented by Amount in Row (9) 8.4%³
12.	Type of Reporting Person (See Instructions) IN

¹ Venrock Healthcare Capital Partners, L.P., VHCP Co-Investment Holdings, LLC, VHCP Management, LLC, Anders Hove and Bryan Roberts are members of a group for the purposes of this Schedule 13G.

² Consists of 2,832,754 shares of common stock and warrants to purchase 991,463 shares of common stock owned by Venrock Healthcare Capital Partners, L.P. and 518,031 shares of common stock and warrants to purchase 181,311 shares of common stock owned by VHCP Co-Investment Holdings, LLC. VHCP Management, LLC is the general partner of Venrock Healthcare Capital Partners, L.P. and the manager of VHCP Co-Investment Holdings, LLC. Messrs. Hove and Roberts are the managing members of VHCP Management, LLC.

³ This percentage is calculated based upon the number of the Issuer's total outstanding shares equal to the sum of (i) 52,800,919 shares of the Issuer's common stock outstanding as of October 31, 2011, as set forth in the Issuer's quarterly report on Form 10-Q filed with the Securities and Exchange Commission on November 9, 2011 and (ii) 1,172,774 shares of common stock underlying warrants owned by the Reporting Persons.

Introductory Note: This Schedule 13G is filed on behalf of Venrock Healthcare Capital Partners, L.P., a limited partnership organized under the laws of the State of Delaware (“VHCP LP”), VHCP Co-Investment Holdings, LLC, a limited liability company organized under the laws of the State of Delaware (“VHCP Co-Investment”), VHCP Management, LLC, a limited liability company organized under the laws of the State of Delaware (“VHCP Management” and collectively with VHCP LP and VHCP Co-Investment, the “Venrock Entities”), Anders Hove and Bryan Roberts in respect of Common Stock of ACADIA Pharmaceuticals Inc.

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.

- (a) Name of Person Filing
Venrock Healthcare Capital Partners, L.P.
VHCP Co-Investment Holdings, LLC
VHCP Management, LLC
Anders Hove
Bryan Roberts
- (b) Address of Principal Business Office or, if none, Residence

New York Office:
530 Fifth Avenue
22nd Floor
New York, NY 10036

Palo Alto Office:
3340 Hillview Avenue
Palo Alto, CA 94304

Cambridge Office:
55 Cambridge Parkway
Suite 100
Cambridge, MA 02142

- (c) Citizenship
All entities were organized in Delaware. The individuals are both United States citizens.
- (d) Title of Class of Securities
Common Stock
- (e) CUSIP Number
004225108

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:
Not applicable

Item 4. Ownership

(a) Amount Beneficially Owned:

Venrock Healthcare Capital Partners, L.P.	4,523,559 (1)
VHCP Co-Investment Holdings, LLC	4,523,559 (1)
VHCP Management, LLC	4,523,559 (1)
Anders Hove	4,523,559 (1)
Bryan Roberts	4,523,559 (1)

Percent of Class:

Venrock Healthcare Capital Partners, L.P.	8.4%
VHCP Co-Investment Holdings, LLC	8.4%
VHCP Management, LLC	8.4%
Anders Hove	8.4%
Bryan Roberts	8.4%

Number of shares as to which the person has:

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

Venrock Healthcare Capital Partners, L.P.	0
VHCP Co-Investment Holdings, LLC	0
VHCP Management, LLC	0
Anders Hove	0
Bryan Roberts	0

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

Venrock Healthcare Capital Partners, L.P.	4,523,559 (1)
VHCP Co-Investment Holdings, LLC	4,523,559 (1)
VHCP Management, LLC	4,523,559 (1)
Anders Hove	4,523,559 (1)
Bryan Roberts	4,523,559 (1)

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

Venrock Healthcare Capital Partners, L.P.	0
VHCP Co-Investment Holdings, LLC	0
VHCP Management, LLC	0
Anders Hove	0
Bryan Roberts	0

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

Venrock Healthcare Capital Partners, L.P.	4,523,559 (1)
VHCP Co-Investment Holdings, LLC	4,523,559 (1)
VHCP Management, LLC	4,523,559 (1)
Anders Hove	4,523,559 (1)
Bryan Roberts	4,523,559 (1)

- (1) These shares are owned directly as follows: 2,832,754 shares of common stock and warrants to purchase 991,463 shares of common stock are owned by Venrock Healthcare Capital Partners, L.P. and 518,031 shares of common stock and warrants to purchase 181,311 shares of common stock are owned by VHCP Co-Investment Holdings, LLC. VHCP Management, LLC is the general partner of Venrock Healthcare Capital Partners, L.P. and the manager of VHCP Co-Investment Holdings, LLC. Messrs. Hove and Roberts are the managing members of VHCP Management, LLC.

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 .

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

The identities of each of the Venrock Entities and Messrs. Hove and Roberts are stated in Item 2(a).

Item 9. Notice of Dissolution of a Group

Not Applicable

Item 10. Certification

By signing below I certify that, to the best of my 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.

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.

Dated: February 14, 2012

Venrock Healthcare Capital Partners, L.P.

By: VHCP Management, LLC,
its General Partner

By: /s/ David L. Stepp
Name: David L. Stepp
Title: Authorized Signatory

VHCP Co-Investment Holdings, LLC

By: VHCP Management, LLC,
its Manager

By: /s/ David L. Stepp
Name: David L. Stepp
Title: Authorized Signatory

VHCP Management, LLC

By: /s/ David L. Stepp
Name: David L. Stepp
Title: Authorized Signatory

/s/ David L. Stepp, as attorney-in-fact

Anders Hove

/s/ David L. Stepp, as attorney-in-fact

Bryan Roberts

EXHIBITS

- A: Joint Filing Agreement
- B: Power of Attorney for Anders Hove
- C: Power of Attorney for Bryan Roberts

EXHIBIT A

JOINT FILING AGREEMENT

In accordance with Rule 13d-1(k) under the Securities Exchange Act of 1934, as amended, the undersigned agree to the joint filing on behalf of each of them of a statement on Schedule 13G (including amendments thereto) with respect to the Common Stock of ACADIA Pharmaceuticals Inc. and further agree that this agreement be included as an exhibit to such filing. Each party to the agreement expressly authorizes each other party to file on its behalf any and all amendments to such statement. Each party to this agreement agrees that this joint filing agreement may be signed in counterparts.

In evidence whereof, the undersigned have caused this Agreement to be executed on their behalf this 14th day of February, 2012.

Venrock Healthcare Capital Partners, L.P.

By: VHCP Management, LLC,
its General Partner

By: /s/ David L. Stepp
Name: David L. Stepp
Title: Authorized Signatory

VHCP Co-Investment Holdings, LLC

By: VHCP Management, LLC,
its Manager

By: /s/ David L. Stepp
Name: David L. Stepp
Title: Authorized Signatory

VHCP Management, LLC

By: /s/ David L. Stepp
Name: David L. Stepp
Title: Authorized Signatory

/s/ David L. Stepp, as attorney-in-fact
Anders Hove

/s/ David L. Stepp, as attorney-in-fact
Bryan Roberts

EXHIBIT B**POWER OF ATTORNEY FOR ANDERS HOVE**

KNOW ALL BY THESE PRESENTS, that the undersigned hereby constitutes and appoints each of David L. Stepp, Mark G. Thompson, and Dick Bradshaw, signing individually, the undersigned's true and lawful attorney-in fact and agent to:

- (i) prepare execute and file, for and on behalf of the undersigned, any and all documents and filings that are required or advisable to be made with the United States Securities and Exchange Commission, any stock exchange or similar authority, under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the rules and regulations promulgated thereunder, including without limitation (a) any Joint Filing Agreement under Rule 13d-1(k) of the Exchange Act (or any successor provision thereunder), Schedule 13D and Schedule 13G (or any successor schedules or forms adopted under the Exchange Act) and any amendments thereto in accordance with Section 13 of the Exchange Act and the rules thereunder, and (b) Forms 3, 4 and 5 and any amendments thereto in accordance with Section 16(a) of the Exchange Act and the rules thereunder; and
- (ii) take any other action of any nature whatsoever in connection with the foregoing which, in the opinion of such attorney-in-fact, may be of benefit, in the best interest of, or legally required by, the undersigned, it being understood that the documents executed by such attorney-in-fact on behalf of the undersigned pursuant to this Power of Attorney shall be in such form and shall contain such terms and conditions as such attorney-in-fact may approve in such attorney-in-fact's discretion.

The undersigned hereby grants to such attorney-in-fact full power and authority to do and perform any and every act and thing whatsoever requisite, necessary, or proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as the undersigned might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that such attorney-in-fact, or such attorney-in-fact's substitute or substitutes, shall lawfully do or cause to be done by virtue of this power of attorney and the rights and powers herein granted. The undersigned acknowledges that the foregoing attorney-in-fact, in serving in such capacity at the request of undersigned, is not assuming, nor is Venrock assuming, any of the undersigned's responsibilities to comply with the Exchange Act, including without limitation Sections 13 and 16 of the Exchange Act.

This power of Attorney shall remain in full force and effect until the earliest to occur of (a) the undersigned is no longer required to file any form or document with respect to the undersigned's holdings of and transactions in securities issued by a company, (b) revocation by the undersigned in a signed writing delivered to the foregoing attorney-in-fact, or (c) until such attorney-in-fact shall no longer be employed by VR Management, LLC (or its successor).

IN WITNESS WHEREOF, the undersigned has cause this Power of Attorney to be executed as of this 4th day of January, 2010.

[Signature Appear Here]

EXHIBIT C**POWER OF ATTORNEY FOR BRYAN ROBERTS**

KNOW ALL BY THESE PRESENTS, that the undersigned hereby constitutes and appoints each of David L. Stepp, Mark G. Thompson, and Dick Bradshaw, signing individually, the undersigned's true and lawful attorney-in fact and agent to:

- (i) prepare execute and file, for and on behalf of the undersigned, any and all documents and filings that are required or advisable to be made with the United States Securities and Exchange Commission, any stock exchange or similar authority, under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the rules and regulations promulgated thereunder, including without limitation (a) any Joint Filing Agreement under Rule 13d-1(k) of the Exchange Act (or any successor provision thereunder), Schedule 13D and Schedule 13G (or any successor schedules or forms adopted under the Exchange Act) and any amendments thereto in accordance with Section 13 of the Exchange Act and the rules thereunder, and (b) Forms 3, 4 and 5 and any amendments thereto in accordance with Section 16(a) of the Exchange Act and the rules thereunder; and
- (ii) take any other action of any nature whatsoever in connection with the foregoing which, in the opinion of such attorney-in-fact, may be of benefit, in the best interest of, or legally required by, the undersigned, it being understood that the documents executed by such attorney-in-fact on behalf of the undersigned pursuant to this Power of Attorney shall be in such form and shall contain such terms and conditions as such attorney-in-fact may approve in such attorney-in-fact's discretion.

The undersigned hereby grants to such attorney-in-fact full power and authority to do and perform any and every act and thing whatsoever requisite, necessary, or proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as the undersigned might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that such attorney-in-fact, or such attorney-in-fact's substitute or substitutes, shall lawfully do or cause to be done by virtue of this power of attorney and the rights and powers herein granted. The undersigned acknowledges that the foregoing attorney-in-fact, in serving in such capacity at the request of undersigned, is not assuming, nor is Venrock assuming, any of the undersigned's responsibilities to comply with the Exchange Act, including without limitation Sections 13 and 16 of the Exchange Act.

This power of Attorney shall remain in full force and effect until the earliest to occur of (a) the undersigned is no longer required to file any form or document with respect to the undersigned's holdings of and transactions in securities issued by a company, (b) revocation by the undersigned in a signed writing delivered to the foregoing attorney-in-fact, or (c) until such attorney-in-fact shall no longer be employed by VR Management, LLC (or its successor).

IN WITNESS WHEREOF, the undersigned has cause this Power of Attorney to be executed as of this 4th day of January, 2010.

[Signature Appear Here]
