

ARCA biopharma, Inc.  
Form SC 13G/A  
February 16, 2016

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, DC 20549

SCHEDULE 13G/A

Under the Securities Exchange Act of 1934  
(Amendment No. 1)\*

ARCA biopharma, Inc.  
(Name of Issuer)

Common stock  
(Title of Class of Securities)

00211Y100  
(CUSIP Number)

December 31, 2015  
(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 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 (“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. 00211Y100

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1 Names of reporting persons

Venrock Healthcare Capital Partners, 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

Number of  
shares

6

0

Shared voting power

beneficially  
owned by  
each

7

1,865,7492

Sole dispositive power

reporting  
person

8

0

Shared dispositive power

with

1,865,7492

9 Aggregate amount beneficially owned by each reporting person

1,865,7492

10 Check if the aggregate amount in Row (9) excludes certain shares (see instructions)

11 Percent of class represented by amount in Row (9)

19.9%<sup>3</sup>

12 Type of reporting person (see instructions)

PN

1. Venrock Healthcare Capital Partners, L.P. (“VHCP”); Venrock Healthcare Capital Partners II, L.P. (“VHCP II”); VCHP Co-Investment Holdings, LLC (“Co-Invest”); VHCP Co-Investment Holdings II, LLC (“Co-Invest II”); VCHP Management, LLC; VCHP Management II, LLC; Anders Hove and Bong Koh are members of a group for the purposes of this Schedule 13G/A.

2. Consists of: (i) 390,912 shares of common stock held directly by VHCP and 82,279 shares of common stock currently exercisable under a warrant held by VHCP; (ii) 767,660 shares of common stock held directly by VHCP II and 161,577 shares of common stock currently exercisable under a warrant held by VHCP II; (iii) 71,487 shares of common stock held directly by Co-Invest and 15,046 shares of common stock

currently exercisable under a warrant held by Co-Invest; and (iv) 311,272 shares of common stock held directly by Co-Invest II and 65,516 shares of common stock currently exercisable under a warrant held by Co-Invest II.

3. This percentage is calculated based upon (i) 9,051,217 shares of the Issuer's common stock outstanding as of November 10, 2015, as set forth in the Issuer's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 12, 2015, plus (ii) 324,418 shares of common stock currently exercisable under warrants held by the Reporting Persons.
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CUSIP No. 00211Y100

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1 Names of reporting persons.

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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

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Sole voting power

Number of  
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-

CUSIP No. 00211Y100

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1 Names of reporting persons.

VHCP Co-Investment Holdings, LLC

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

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Sole voting power

Number of  
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1 Names of reporting persons.

VHCP Co-Investment Holdings II, LLC

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

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Number of  
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-

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1 Names of reporting persons.

VHCP Management, LLC

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

Number of  
shares

6

0

Shared voting power

beneficially  
owned by  
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Sole dispositive power

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8

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Shared dispositive power

with

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1 Names of reporting persons.

VHCP Management II, LLC

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

Number of  
shares

6

0

Shared voting power

beneficially  
owned by  
each

7

1,865,7492

Sole dispositive power

reporting  
person

with

8

0

Shared dispositive power

1,865,7492

9 Aggregate amount beneficially owned by each reporting person

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12 Type of reporting person (see instructions)

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-

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1 Names of reporting persons.

Koh, Bong

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

Number of

0

shares

6

Shared voting power

beneficially

owned by

1,865,7492

each

7

Sole dispositive power

reporting

person

0

with

8

Shared dispositive power

1,865,7492

9 Aggregate amount beneficially owned by each reporting person

1,865,7492

10 Check if the aggregate amount in Row (9) excludes certain shares (see instructions)

11 Percent of class represented by amount in Row (9)

19.9%<sup>3</sup>

12 Type of reporting person (see instructions)

IN

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-



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1 Names of reporting persons.

Hove, Anders

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

Number of

0

shares 6

Shared voting power

beneficially

owned by

1,865,7492

each 7

Sole dispositive power

reporting

person

0

with 8

Shared dispositive power

1,865,7492

9 Aggregate amount beneficially owned by each reporting person

1,865,7492

10 Check if the aggregate amount in Row (9) excludes certain shares (see instructions) 

11 Percent of class represented by amount in Row (9)

19.9%<sup>3</sup>

12 Type of reporting person (see instructions)

IN

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Introductory Note: This Schedule 13G/A is filed on behalf of Venrock Healthcare Capital Partners, L.P., a limited partnership organized under the laws of the state of Delaware (“VHCP”), Venrock Healthcare Capital Partners II, L.P., a limited partnership organized under the laws of the state of Delaware (“VHCP II”), VHCP Co-Investment Holdings, LLC., a limited liability company organized under the laws of the state of Delaware (“Co-Invest”), VHCP Co-Investment Holdings II, LLC, a limited liability company organized under the laws of the state of Delaware (“Co-Invest II), VCHP Management, LLC, a limited liability company organized under the laws of the state of Delaware, VCHP Management II, LLC, a limited liability company organized under the laws of the state of Delaware, Anders Hove and Bong Koh in respect of the shares of common stock of ARCA biopharma, Inc.

Item 1.

(a) Name of Issuer:

ARCA biopharma, Inc.

(b) Address of Issuer’s Principal Executive Offices:

11080 CirclePoint Road, Suite 140  
Westminster, CO 80020

Item 2.

(a) Name of Persons Filing:

Venrock Healthcare Capital Partners, L.P.  
Venrock Healthcare Capital Partners II, L.P.  
VHCP Co-Investment Holdings, LLC  
VHCP Co-Investment Holdings II, LLC  
VHCP Management, LLC  
VHCP Management II, LLC  
Anders Hove  
Bong Koh

(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

Boston Office

470 Atlantic Avenue  
4th Floor  
Boston, MA, 02210

(c) Citizenship:

All entities are organized in Delaware. The individuals are both United States citizens.

(d) Title of Class of Securities:

Common Stock

(e) CUSIP Number:

00211Y100

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.

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CUSIP No. 00211Y100

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## Item 4. Ownership:

## (a) Amount beneficially owned as of December 31, 2015:

Venrock Healthcare Capital Partners, L.P.	1,865,749(1)
Venrock Healthcare Capital Partners II, L.P.	1,865,749(1)
VHCP Co-Investment Holdings, LLC	1,865,749(1)
VHCP Co-Investment Holdings, LLC	1,865,749(1)
VHCP Management, LLC	1,865,749(1)
VHCP Management II, LLC	1,865,749(1)
Anders Hove	1,865,749(1)
Bong Koh	1,865,749(1)

## (b) Percent of class as of December 31, 2015:

Venrock Healthcare Capital Partners, L.P.	19.9%
Venrock Healthcare Capital Partners II, L.P.	19.9%
VHCP Co-Investment Holdings, LLC	19.9%
VHCP Co-Investment Holdings II, LLC	19.9%
VHCP Management, LLC	19.9%
VHCP Management II, LLC	19.9%
Anders Hove	19.9%
Bong Koh	19.9%

## (c) Number of shares to which the person has as of December 31, 2015:

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

Venrock Healthcare Capital Partners, L.P.	0
Venrock Healthcare Capital Partners II, L.P.	0

VHCP Co-Investment Holdings, LLC	0
VHCP Co-Investment Holdings II, LLC	0
VHCP Management, LLC	0
VHCP Management II, LLC	0
Anders Hove	0
Bong Koh	0

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

Venrock Healthcare Capital Partners, L.P.	1,865,749(1)
Venrock Healthcare Capital Partners II, L.P.	1,865,749(1)
VHCP Co-Investment Holdings, LLC	1,865,749(1)
VHCP Co-Investment Holdings, LLC	1,865,749(1)
VHCP Management, LLC	1,865,749(1)
VHCP Management II, LLC	1,865,749(1)
Anders Hove	1,865,749(1)
Bong Koh	1,865,749(1)

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

Venrock Healthcare Capital Partners, L.P.	0
Venrock Healthcare Capital Partners II, L.P.	0
VHCP Co-Investment Holdings, LLC	0
VHCP Co-Investment Holdings II, LLC	0
VHCP Management, LLC	0
VHCP Management II, LLC	0
Anders Hove	0
Bong Koh	0

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

Venrock Healthcare Capital Partners, L.P.	1,865,749(1)
Venrock Healthcare Capital Partners II, L.P.	1,865,749(1)
VHCP Co-Investment Holdings, LLC	1,865,749(1)
VHCP Co-Investment Holdings, LLC	1,865,749(1)
VHCP Management, LLC	1,865,749(1)
VHCP Management II, LLC	1,865,749(1)
Anders Hove	1,865,749(1)
Bong Koh	1,865,749(1)

(1) These shares are owned directly as follows: (i) 390,912 shares of common stock are held directly by VHCP and 82,279 shares of common stock are currently exercisable under a warrant held by VHCP; (ii) 767,660 shares of common stock are held directly by VHCP II and 161,577 shares of common stock are currently exercisable under a warrant held by VHCP II; (iii) 71,487 shares of common stock are held directly by Co-Invest and 15,046 shares of common stock are currently exercisable under a warrant held by Co-Invest; and (iv) 311,272 shares of common stock are held directly by Co-Invest II and 65,516 shares of common stock are currently exercisable under a warrant held by Co-Invest II.

Item 5. Ownership of Five Percent or Less of 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:

Not applicable.

Item 8. Identification and Classification of Members of the Group:

Not applicable.

Item 9. Notice of Dissolution of Group:

Not applicable.

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CUSIP No. 00211Y100

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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.

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CUSIP No. 00211Y100

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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.

Date: February 16, 2016

Venrock Healthcare Capital Partners, L.P.

By: VHCP Management, LLC  
Its: Manager

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

Venrock Healthcare Capital Partners II, L.P.

By: VHCP Management II, LLC  
Its: General Partner

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

VHCP Co-Investment Holdings, LLC

By: VHCP Management, LLC  
Its: Manager

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

VHCP Co-Investment Holdings II, LLC

By: VHCP Management II, LLC  
Its: General Partner

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

VHCP Management, LLC

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

VHCP Management II, LLC

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

Anders Hove

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

Bong Koh

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

CUSIP No. 00211Y100

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EXHIBITS

- A: Joint Filing Agreement (Incorporated by reference from Exhibit A to Schedule 13G filed on June 25, 2015)
  - B: Power of Attorney for Anders Hove
  - C: Power of Attorney for Bong Koh
-

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.

/s/ Anders Hove

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EXHIBIT C

POWER OF ATTORNEY FOR BONG KOH

POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that the undersigned hereby constitutes and appoints each of Lisa Harris, Sherman G. Souther, Jr. and David L. Stepp, 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 the 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 Venrock.

IN WITNESS WHEREOF, the undersigned has cause this Power of Attorney to be executed as of this 26th day of January, 2015.

/s/ Bong Koh