

ARCA biopharma, Inc.  
Form SC 13G/A  
February 04, 2011

OMB APPROVAL  
OMB Number: 3235-0145  
Expires: February 28, 2010  
Estimated average burden  
hours per response.....10.4

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

**SCHEDULE 13G**

**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, 2010  
(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).

CUSIP No. 00211Y100

13G

Page 2 of 21 Pages

NAME OF REPORTING PERSONS

**1 InterWest Partners IX, LP**

I.R.S. IDENTIFICATION NO(S). OF ABOVE PERSON(S) (ENTITIES ONLY)

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

**2**  
 (a)   
 (b)

SEC USE ONLY

**3**

CITIZENSHIP OR PLACE OF ORGANIZATION

**4**  
**California**

SOLE VOTING POWER

**5**

NUMBER OF 521,904

SHARED VOTING POWER

**6**

SHARES BENEFICIALLY OWNED BY 0

SOLE DISPOSITIVE POWER

**7**

REPORTING PERSON WITH 521,904

SHARED DISPOSITIVE POWER

**8**

0

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

**9**

521,904

**10** CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES:

o

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

5.9%

**12** TYPE OF REPORTING PERSON

PN

CUSIP No. 00211Y100

13G

Page 3 of 21 Pages

NAME OF REPORTING PERSONS

**1 InterWest Management Partners IX, LLC (the General Partner of InterWest Partners IX, LP)**

I.R.S. IDENTIFICATION NO(S). OF ABOVE PERSON(S) (ENTITIES ONLY)

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

**2**  
 (a)   
 (b)

**3**  
 SEC USE ONLY

**4**  
 CITIZENSHIP OR PLACE OF ORGANIZATION  
**California**

**5**  
 SOLE VOTING POWER  
 NUMBER OF 521,904

**6**  
 SHARES SHARED VOTING POWER  
 BENEFICIALLY OWNED BY 0

**7**  
 REPORTING SOLE DISPOSITIVE POWER  
 PERSON WITH 521,904

**8**  
 SHARED DISPOSITIVE POWER  
 0

**9**  
 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

521,904

**10**

CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES:

o

**11**

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

5.9%

**12**

TYPE OF REPORTING PERSON

OO

CUSIP No. 00211Y100

13G

Page 4 of 21 Pages

NAME OF REPORTING PERSONS

1 **Harvey B. Cash (a Managing Director of InterWest Management Partners IX, LLC)**

I.R.S. IDENTIFICATION NO(S). OF ABOVE PERSON(S) (ENTITIES ONLY)

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

2  
(a)   
(b)

SEC USE ONLY

3

CITIZENSHIP OR PLACE OF ORGANIZATION

4  
**United States**

SOLE VOTING POWER

5

NUMBER OF 0

SHARED VOTING POWER

6

SHARES BENEFICIALLY OWNED BY 521,904

SOLE DISPOSITIVE POWER

7

REPORTING PERSON WITH 0

SHARED DISPOSITIVE POWER

8

521,904

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

9

521,904

CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES:

**10**

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

**11**

5.9%

TYPE OF REPORTING PERSON

**12**

**IN**

Neither the filing of this statement on Schedule 13G nor any of its contents shall be deemed to constitute an admission by Harvey B. Cash that he is the beneficial owner of any of the Common Stock referred to herein for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or for any other purpose, and such beneficial ownership is expressly disclaimed, except to the extent of his pecuniary interest.

CUSIP No. 00211Y100

13G

Page 5 of 21 Pages

NAME OF REPORTING PERSONS

**1 Bruce A. Cleveland (a Venture Member of InterWest Management Partners IX, LLC)**

I.R.S. IDENTIFICATION NO(S). OF ABOVE PERSON(S) (ENTITIES ONLY)

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

**2**  
 (a)   
 (b)

SEC USE ONLY

**3**

CITIZENSHIP OR PLACE OF ORGANIZATION

**4**  
**United States**

SOLE VOTING POWER

**5**

NUMBER OF 0

SHARED VOTING POWER

**6**

SHARES BENEFICIALLY OWNED BY 521,904

SOLE DISPOSITIVE POWER

**7**

REPORTING PERSON WITH 0

SHARED DISPOSITIVE POWER

**8**

521,904

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

**9**



521,904

CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES:

**10**

o

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

**11**

5.9%

TYPE OF REPORTING PERSON

**12**

**IN**

Neither the filing of this statement on Schedule 13G nor any of its contents shall be deemed to constitute an admission by Bruce A. Cleveland that he is the beneficial owner of any of the Common Stock referred to herein for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or for any other purpose, and such beneficial ownership is expressly disclaimed, except to the extent of his pecuniary interest.

CUSIP No. 00211Y100

13G

Page 6 of 21 Pages

NAME OF REPORTING PERSONS

**1 Christopher B. Ehrlich (a Venture Member of InterWest Management Partners IX, LLC)**

I.R.S. IDENTIFICATION NO(S). OF ABOVE PERSON(S) (ENTITIES ONLY)

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

**2**  
 (a)   
 (b)

SEC USE ONLY

**3**

CITIZENSHIP OR PLACE OF ORGANIZATION

**4**  
**United States**

SOLE VOTING POWER

**5**

NUMBER OF 0

SHARED VOTING POWER

**6**

SHARES BENEFICIALLY OWNED BY 521,904

SOLE DISPOSITIVE POWER

**7**

REPORTING PERSON WITH 0

SHARED DISPOSITIVE POWER

**8**

521,904

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

**9**

521,904

CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES:

**10**

o

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

**11**

5.9%

TYPE OF REPORTING PERSON

**12**

**IN**

Neither the filing of this statement on Schedule 13G nor any of its contents shall be deemed to constitute an admission by Christopher B. Ehrlich that he is the beneficial owner of any of the Common Stock referred to herein for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or for any other purpose, and such beneficial ownership is expressly disclaimed, except to the extent of his pecuniary interest.

CUSIP No. 00211Y100

13G

Page 7 of 21 Pages

NAME OF REPORTING PERSONS

**1 Philip T. Gianos (a Managing Director of InterWest Management Partners IX, LLC)**

I.R.S. IDENTIFICATION NO(S). OF ABOVE PERSON(S) (ENTITIES ONLY)

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

**2**  
 (a)   
 (b)

**3**  
 SEC USE ONLY

**4**  
 CITIZENSHIP OR PLACE OF ORGANIZATION  
**United States**

**5**  
 NUMBER OF SOLE VOTING POWER  
 0

**6**  
 SHARES SHARED VOTING POWER  
 BENEFICIALLY OWNED BY 521,904

**7**  
 REPORTING SOLE DISPOSITIVE POWER  
 PERSON WITH 0

**8**  
 SHARED DISPOSITIVE POWER  
 521,904

**9**  
 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

521,904

CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES:

**10**

o

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

**11**

5.9%

TYPE OF REPORTING PERSON

**12**

**IN**

Neither the filing of this statement on Schedule 13G nor any of its contents shall be deemed to constitute an admission by Philip T. Gianos that he is the beneficial owner of any of the Common Stock referred to herein for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or for any other purpose, and such beneficial ownership is expressly disclaimed, except to the extent of his pecuniary interest.

CUSIP No. 00211Y100

13G

Page 8 of 21 Pages

NAME OF REPORTING PERSONS

**1 Linda S. Grais (a Venture Member of InterWest Management Partners IX, LLC)**

I.R.S. IDENTIFICATION NO(S). OF ABOVE PERSON(S) (ENTITIES ONLY)

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

**2**  
 (a)   
 (b)

SEC USE ONLY

**3**

CITIZENSHIP OR PLACE OF ORGANIZATION

**4**  
**United States**

SOLE VOTING POWER

**5**

NUMBER OF 11,000

SHARED VOTING POWER

**6**

SHARES BENEFICIALLY OWNED BY 521,904

SOLE DISPOSITIVE POWER

**7**

REPORTING PERSON WITH 11,000

SHARED DISPOSITIVE POWER

**8**

521,904

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

**9**

532,904

CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES:

**10**

o

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

**11**

6.0%

TYPE OF REPORTING PERSON

**12**

**IN**

Neither the filing of this statement on Schedule 13G nor any of its contents shall be deemed to constitute an admission by Linda S. Grais that she is the beneficial owner of any of the Common Stock referred to herein for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or for any other purpose, and such beneficial ownership is expressly disclaimed, except to the extent of his pecuniary interest.

CUSIP No. 00211Y100

13G

Page 9 of 21 Pages

NAME OF REPORTING PERSONS

**1 W. Stephen Holmes III (a Managing Director of InterWest Management Partners IX, LLC)**

I.R.S. IDENTIFICATION NO(S). OF ABOVE PERSON(S) (ENTITIES ONLY)

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

**2**  
 (a)   
 (b)

**3**  
 SEC USE ONLY

**4**  
 CITIZENSHIP OR PLACE OF ORGANIZATION  
**United States**

**5**  
 NUMBER OF SOLE VOTING POWER  
 0

**6**  
 SHARES SHARED VOTING POWER  
 BENEFICIALLY OWNED BY 521,904

**7**  
 REPORTING SOLE DISPOSITIVE POWER  
 PERSON WITH 0

**8**  
 SHARED DISPOSITIVE POWER  
 521,904

**9**  
 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON



521,904

CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES:

**10**

o

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

**11**

5.9%

TYPE OF REPORTING PERSON

**12**

**IN**

Neither the filing of this statement on Schedule 13G nor any of its contents shall be deemed to constitute an admission by W. Stephen Holmes III that he is the beneficial owner of any of the Common Stock referred to herein for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or for any other purpose, and such beneficial ownership is expressly disclaimed, except to the extent of his pecuniary interest.

CUSIP No. 00211Y100

13G

Page 10 of 21 Pages

NAME OF REPORTING PERSONS

**1** Nina S. Kjellson (a Venture Member of InterWest Management Partners IX, LLC)

I.R.S. IDENTIFICATION NO(S). OF ABOVE PERSON(S) (ENTITIES ONLY)

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

**2**  
 (a)   
 (b)

SEC USE ONLY

**3**

CITIZENSHIP OR PLACE OF ORGANIZATION

**4**  
 United States

SOLE VOTING POWER

**5**

NUMBER OF 0

SHARED VOTING POWER

**6**

SHARES BENEFICIALLY OWNED BY 521,904

SOLE DISPOSITIVE POWER

**7**

REPORTING PERSON WITH 0

SHARED DISPOSITIVE POWER

**8**

521,904

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

**9**

521,904

CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES:

**10**

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

**11**

5.9%

TYPE OF REPORTING PERSON

**12**

**IN**

Neither the filing of this statement on Schedule 13G nor any of its contents shall be deemed to constitute an admission by Nina S. Kjellson that she is the beneficial owner of any of the Common Stock referred to herein for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or for any other purpose, and such beneficial ownership is expressly disclaimed, except to the extent of his pecuniary interest.

CUSIP No. 00211Y100

13G

Page 11 of 21 Pages

NAME OF REPORTING PERSONS

**1** **Gilbert H. Kliman (a Managing Director of InterWest Management Partners IX, LLC)**

I.R.S. IDENTIFICATION NO(S). OF ABOVE PERSON(S) (ENTITIES ONLY)

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

**2**  
 (a)   
 (b)

**3**  
 SEC USE ONLY

**4**  
 CITIZENSHIP OR PLACE OF ORGANIZATION  
**United States**

**5**  
 NUMBER OF SOLE VOTING POWER  
 0

**6**  
 SHARES SHARED VOTING POWER  
 BENEFICIALLY OWNED BY 521,904

**7**  
 REPORTING SOLE DISPOSITIVE POWER  
 PERSON WITH 0

**8**  
 SHARED DISPOSITIVE POWER  
 521,904

**9**  
 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

521,904

CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES:

**10**

o

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

**11**

5.9%

TYPE OF REPORTING PERSON

**12**

**IN**

Neither the filing of this statement on Schedule 13G nor any of its contents shall be deemed to constitute an admission by Gilbert H. Kliman that he is the beneficial owner of any of the Common Stock referred to herein for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or for any other purpose, and such beneficial ownership is expressly disclaimed, except to the extent of his pecuniary interest.

CUSIP No. 00211Y100

13G

Page 12 of 21 Pages

NAME OF REPORTING PERSONS

**1 Khaled A. Nasr (a Venture Member of InterWest Management Partners IX, LLC)**

I.R.S. IDENTIFICATION NO(S). OF ABOVE PERSON(S) (ENTITIES ONLY)

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

**2**  
 (a)   
 (b)

SEC USE ONLY

**3**

CITIZENSHIP OR PLACE OF ORGANIZATION

**4**  
**United States**

SOLE VOTING POWER

**5**

NUMBER OF 0

SHARED VOTING POWER

**6**

SHARES BENEFICIALLY OWNED BY 521,904

SOLE DISPOSITIVE POWER

**7**

REPORTING PERSON WITH 0

SHARED DISPOSITIVE POWER

**8**

521,904

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

**9**

521,904

CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES:

**10**

o

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

**11**

5.9%

TYPE OF REPORTING PERSON

**12**

**IN**

Neither the filing of this statement on Schedule 13G nor any of its contents shall be deemed to constitute an admission by Khaled A. Nasr that he is the beneficial owner of any of the Common Stock referred to herein for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or for any other purpose, and such beneficial ownership is expressly disclaimed, except to the extent of his pecuniary interest.

CUSIP No. 00211Y100

13G

Page 13 of 21 Pages

NAME OF REPORTING PERSONS

**1** Arnold L. Oronsky (a Managing Director of InterWest Management Partners IX, LLC)

I.R.S. IDENTIFICATION NO(S). OF ABOVE PERSON(S) (ENTITIES ONLY)

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

**2**  
 (a)   
 (b)

SEC USE ONLY

**3**

CITIZENSHIP OR PLACE OF ORGANIZATION

**4**  
 United States

SOLE VOTING POWER

**5**

NUMBER OF 0

SHARED VOTING POWER

**6**

SHARES BENEFICIALLY OWNED BY 521,904

SOLE DISPOSITIVE POWER

**7**

REPORTING PERSON WITH 0

SHARED DISPOSITIVE POWER

**8**

521,904

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

**9**



521,904

CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES:

**10**

o

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

**11**

5.9%

TYPE OF REPORTING PERSON

**12**

**IN**

Neither the filing of this statement on Schedule 13G nor any of its contents shall be deemed to constitute an admission by Arnold L. Oronsky that he is the beneficial owner of any of the Common Stock referred to herein for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or for any other purpose, and such beneficial ownership is expressly disclaimed, except to the extent of his pecuniary interest.

CUSIP No. 00211Y100

13G

Page 14 of 21 Pages

NAME OF REPORTING PERSONS

**1 Douglas A. Pepper (a Venture Member of InterWest Management Partners IX, LLC)**

I.R.S. IDENTIFICATION NO(S). OF ABOVE PERSON(S) (ENTITIES ONLY)

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

**2**  
 (a)   
 (b)

SEC USE ONLY

**3**

CITIZENSHIP OR PLACE OF ORGANIZATION

**4**  
**United States**

SOLE VOTING POWER

**5**

NUMBER OF 0

SHARED VOTING POWER

**6**

SHARES BENEFICIALLY OWNED BY 521,904

SOLE DISPOSITIVE POWER

**7**

REPORTING PERSON WITH 0

SHARED DISPOSITIVE POWER

**8**

521,904

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

**9**

521,904

CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES:

**10**

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

**11**

5.9%

TYPE OF REPORTING PERSON

**12**

**IN**

Neither the filing of this statement on Schedule 13G nor any of its contents shall be deemed to constitute an admission by Douglas A. Pepper that he is the beneficial owner of any of the Common Stock referred to herein for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or for any other purpose, and such beneficial ownership is expressly disclaimed, except to the extent of his pecuniary interest.

CUSIP No. 00211Y100

13G

Page 15 of 21 Pages

NAME OF REPORTING PERSONS

1 **Thomas L. Rosch (a Managing Director of InterWest Management Partners IX, LLC)**

I.R.S. IDENTIFICATION NO(S). OF ABOVE PERSON(S) (ENTITIES ONLY)

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

2  
(a)   
(b)

SEC USE ONLY

3

CITIZENSHIP OR PLACE OF ORGANIZATION

4

**United States**

SOLE VOTING POWER

5

NUMBER OF 0

SHARED VOTING POWER

6

SHARES BENEFICIALLY OWNED BY 521,904

SOLE DISPOSITIVE POWER

7

REPORTING PERSON WITH 0

SHARED DISPOSITIVE POWER

8

521,904

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

9

521,904

CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES:

**10**

o

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

**11**

5.9%

TYPE OF REPORTING PERSON

**12**

**IN**

Neither the filing of this statement on Schedule 13G nor any of its contents shall be deemed to constitute an admission by Thomas L. Rosch that he is the beneficial owner of any of the Common Stock referred to herein for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or for any other purpose, and such beneficial ownership is expressly disclaimed, except to the extent of his pecuniary interest.

CUSIP No. 00211Y100

13G

Page 16 of 21 Pages

NAME OF REPORTING PERSONS

**1 Michael B. Sweeney (a Managing Director of InterWest Management Partners IX, LLC)**

I.R.S. IDENTIFICATION NO(S). OF ABOVE PERSON(S) (ENTITIES ONLY)

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

**2**  
 (a)   
 (b)

**3**  
 SEC USE ONLY

**4**  
 CITIZENSHIP OR PLACE OF ORGANIZATION  
**United States**

**5**  
 NUMBER OF SOLE VOTING POWER  
 0

**6**  
 SHARES SHARED VOTING POWER  
 BENEFICIALLY OWNED BY 521,904

**7**  
 REPORTING SOLE DISPOSITIVE POWER  
 PERSON WITH 0

**8**  
 SHARED DISPOSITIVE POWER  
 521,904

**9**  
 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

521,904

CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES:

**10**

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

**11**

5.9%

TYPE OF REPORTING PERSON

**12**

**IN**

Neither the filing of this statement on Schedule 13G nor any of its contents shall be deemed to constitute an admission by Michael B. Sweeney that he is the beneficial owner of any of the Common Stock referred to herein for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or for any other purpose, and such beneficial ownership is expressly disclaimed, except to the extent of his pecuniary interest.

**ITEM 1.**

**(a) NAME OF ISSUER :** ARCA biopharma, Inc.

**(b) ADDRESS OF ISSUER S PRINCIPAL EXECUTIVE OFFICE:**

8001 Arista Place, Suite 200, Broomfield, CO 80021

**ITEM 2.**

**(a) NAME OF PERSON(S) FILING:**

InterWest Partners IX, LP ( IWP IX )

InterWest Management Partners IX, LLC ( IMP IX )

Harvey B. Cash ( Cash )

Bruce A. Cleveland ( Cleveland )

Christopher B. Ehrlich ( Ehrlich )

Philip T. Gianos ( Gianos )

Linda S. Grais ( Grais )

W. Stephen Holmes III ( Holmes )

Nina S. Kjellson ( Kjellson )

Gilbert H. Kliman ( Kliman )

Khaled A. Nasr ( Nasr )

Arnold L. Oronsky ( Oronsky )

Douglas A. Pepper ( Pepper )

Thomas L. Rosch ( Rosch )

Michael B. Sweeney ( Sweeney )

**(b) ADDRESS OF PRINCIPAL BUSINESS OFFICE OR, IF NONE, RESIDENCE:**

2710 Sand Hill Road, Second Floor, Menlo Park, CA 94025

**(c) CITIZENSHIP/PLACE OF ORGANIZATION:**

IWP IX: California  
IMP IX: California  
Cash: United States  
Cleveland: United States  
Ehrlich: United States  
Gianos: United States  
Grais: United States  
Holmes: United States  
Kjellson: United States  
Kliman: United States  
Nasr: United States  
Oronsky: United States  
Pepper: United States  
Rosch: United States  
Sweeney: United States



(d) **TITLE OF CLASS OF SECURITIES:** Common Stock

(e) **CUSIP NUMBER:** 00211Y100

**ITEM 3. NOT APPLICABLE.**

**ITEM 4. OWNERSHIP.**

	<b>IWP IX</b>	<b>IMP IX (1)</b>	<b>Cash (2)</b>	<b>Cleveland (2)</b>	<b>Ehrlich (2)</b>
Beneficial Ownership	521,904	521,904	521,904	521,904	521,904
Percentage of Class	5.9%	5.9%	5.9%	5.9%	5.9%
Sole Voting Power	521,904	521,904	0	0	0
Shared Voting Power	0	0	521,904	521,904	521,904
Sole Dispositive Power	521,904	521,904	0	0	0
Shared Dispositive Power	0	0	521,904	521,904	521,904
		<b>Gianos (2)</b>	<b>Grais (2) **</b>	<b>Holmes (2)</b>	<b>Kjellson (2)</b>
Beneficial Ownership		521,904	532,904	521,904	521,904
Percentage of Class		5.9%	6.0%	5.9%	5.9%
Sole Voting Power		0	11,000	0	0
Shared Voting Power		521,904	521,904	521,904	521,904
Sole Dispositive Power		0	11,000	0	0
Shared Dispositive Power		521,904	521,904	521,904	521,904
			<b>Kliman (2)</b>	<b>Nasr (2)</b>	<b>Oronsky (2)</b>
Beneficial Ownership			521,904	521,904	521,904
Percentage of Class			5.9%	5.9%	5.9%
Sole Voting Power			0	0	0
Shared Voting Power			521,904	521,904	521,904
Sole Dispositive Power			0	0	0
Shared Dispositive Power			521,904	521,904	521,904
			<b>Pepper (2)</b>	<b>Rosch (2)</b>	<b>Sweeney (2)</b>
Beneficial Ownership			521,904	521,904	521,904
Percentage of Class			5.9%	5.9%	5.9%
Sole Voting Power			0	0	0
Shared Voting Power			521,904	521,904	521,904
Sole Dispositive Power			0	0	0
Shared Dispositive Power			521,904	521,904	521,904

\*\* Includes 11,000 shares issuable to Grais pursuant to outstanding options exercisable within 60 days of December 31, 2010.

(1) IMP IX is the general partner of IWP IX.

(2) Cash, Gianos, Holmes, Kliman, Oronsky, Rosch, and Sweeney are Managing Directors of IMP IX. Cleveland, Ehrlich, Grais, Kjellson, Nasr, and Pepper are Venture Members of IMP IX.

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

Not applicable.

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

Under certain circumstances set forth in the limited liability company operating agreement of IMP IX, the members of such limited liability company have the right to receive dividends from, or the proceeds from the sale of, the common stock of Issuer beneficially owned by such limited liability company.

**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.**

No reporting person is a member of a group as defined in section 240.13d-1(b)(1)(iii)(H) of the Act.

**ITEM 9. NOTICE OF DISSOLUTION OF THE GROUP.**

Not applicable.

**ITEM 10. CERTIFICATION.**

Not applicable.

**EXHIBITS**

Joint Filing Statement attached as Exhibit A.

Page 19 of 21 Pages

---

**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 4, 2011

By: /s/ Harvey B. Cash  
Name: Harvey B. Cash

By: /s/ Bruce A. Cleveland  
Name: Bruce A. Cleveland

By: /s/ Christopher B. Ehrlich  
Name: Christopher B. Ehrlich

By: /s/ Philip T. Gianos  
Name: Philip T. Gianos

By: /s/ Linda S. Grais  
Name: Linda S. Grais

By: /s/ W. Stephen Holmes  
Name: W. Stephen Holmes

By: /s/ Nina S. Kjellson  
Name: Nina S. Kjellson

By: /s/ Gilbert H. Kliman  
Name: Gilbert H. Kliman

By: /s/ Khaled A. Nasr  
Name: Khaled A. Nasr

By: /s/ Arnold L. Oronsky  
Name: Arnold L. Oronsky

INTERWEST PARTNERS IX, LP

By: InterWest Management Partners IX, LLC  
its General Partner

By: /s/ W. Stephen Holmes  
Managing Director

INTERWEST MANAGEMENT PARTNERS IX, LLC

By: /s/ W. Stephen Holmes

Managing Director

By: /s/ Douglas A. Pepper  
Name: Douglas A. Pepper

By: /s/ Thomas L. Rosch  
Name: Thomas L. Rosch

By: /s/ Michael B. Sweeney  
Name: Michael B. Sweeney

Page 20 of 21 Pages

---

**EXHIBIT A**  
**Joint Filing Statement**

We, the undersigned, hereby express our agreement that the attached Schedule 13G is filed on behalf of each of us.  
Date: February 4, 2011

By: /s/ Harvey B. Cash  
Name: Harvey B. Cash

By: /s/ Bruce A. Cleveland  
Name: Bruce A. Cleveland

By: /s/ Christopher B. Ehrlich  
Name: Christopher B. Ehrlich

By: /s/ Philip T. Gianos  
Name: Philip T. Gianos

By: /s/ Linda S. Grais  
Name: Linda S. Grais

By: /s/ W. Stephen Holmes  
Name: W. Stephen Holmes

By: /s/ Nina S. Kjellson  
Name: Nina S. Kjellson

By: /s/ Gilbert H. Kliman  
Name: Gilbert H. Kliman

By: /s/ Khaled A. Nasr  
Name: Khaled A. Nasr

By: /s/ Arnold L. Oronsky  
Name: Arnold L. Oronsky

INTERWEST PARTNERS IX, LP

By: InterWest Management Partners IX, LLC  
its General Partner

By: /s/ W. Stephen Holmes  
Managing Director

INTERWEST MANAGEMENT PARTNERS IX, LLC

By: /s/ W. Stephen Holmes

Managing Director

By: /s/ Douglas A. Pepper  
Name: Douglas A. Pepper

By: /s/ Thomas L. Rosch  
Name: Thomas L. Rosch

By: /s/ Michael B. Sweeney  
Name: Michael B. Sweeney

Page 21 of 21 Pages