ARCA biopharma, Inc. Form 10-Q/A November 06, 2009

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-Q/A

(Amendment No. 1)

X QUARTERLY REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE QUARTERLY PERIOD ENDED MARCH 31, 2009

OR

" TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE TRANSITION PERIOD FROM _____ TO ____

Commission File Number 000-22873

ARCA BIOPHARMA, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware (State or Other Jurisdiction of

36-3855489 (I.R.S. Employer

Incorporation or Organization)

Identification Number)

8001 Arista Place, Suite 200 Broomfield, CO (Address of Principal Executive Offices)

80021 (Zip Code)

(720) 940-2200

(Registrant s Telephone Number, including Area Code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Sections 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No "

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes "No"

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act.

Large accelerated filer ... Accelerated filer

Non-accelerated filer " (Do not check if smaller reporting company)

Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes " No x

Indicate the number of shares outstanding of each of the issuer s classes of common stock, as of the latest practicable date.

Class
Common Stock \$0.001 par value

Number of Shares Outstanding On May 8, 2009: 7,570,103

EXPLANATORY NOTE

This Amendment No. 1 on Form 10-Q/A (the Amendment) to ARCA biopharma, Inc. s (the Company, we or us) Quarterly Report on Form 10 for the quarterly period ended March 31, 2009, originally filed with the Securities and Exchange Commission (the Commission) on May 15, 2009 (Commission File No. 000-22873), is being filed solely for the purpose of revising portions of Exhibits 10.2 and 10.11 in order to disclose certain information for which confidential treatment had been requested and to include certain exhibits and schedules that were previously omitted, in response to comments made by the Commission to the Company s request for confidential treatment with respect to Exhibits 10.2 and 10.11. In addition, as required by Rule 12b-15 of the Securities Exchange Act of 1934, new certifications by our principal executive officer and principal financial officer are included herein as exhibits to this Amendment.

This Amendment does not update any other disclosure to reflect events occurring after the filing of the original Form 10-Q. Pursuant to Rule 12b-15 under the Securities Exchange Act of 1934, as amended, we have restated in its entirety each item of the original Form 10-Q affected by this Amendment.

PART II

ITEM 6. EXHIBITS

The following documents are filed as part of this quarterly report on Form 10-Q/A. The Company will furnish a copy of any exhibit listed to requesting stockholders upon payment of the Company s reasonable expenses in furnishing those materials.

Exhibit

Number	Description
2.1	Agreement and Plan of Merger and Reorganization, dated as of September 24, 2008, among Nuvelo, Inc., Dawn Acquisition Sub, Inc. and ARCA biopharma, Inc.(1)
2.2	Amendment No. 1 to Agreement and Plan of Merger and Reorganization dated October 28, 2008, by and among Nuvelo, Inc., Dawn Acquisition Sub, Inc. and ARCA biopharma, Inc.(2)
3.1	Amended and Restated Certificate of Incorporation of the Registrant, as amended.(3)
3.2	Amended and Restated Bylaws of the Registrant, as amended.(3)
4.1	Form of Common Stock Certificate.(4)
4.2	Warrant to Purchase Stock Agreement, dated July 17, 2007, by and between ARCA Discovery, Inc. and Silicon Valley Bank.(3)
4.3	Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and SVB Financial Group.(3)
4.4	Warrant to Purchase Stock Agreement, dated August 19, 2008, by and between ARCA biopharma, Inc. and Silicon Valley Bank.(3)
4.5	Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and SVB Financial Group.(3)
4.6	Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3)
4.7	Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3)
4.8	Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3)
4.9	Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3)
4.10	Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and InterWest Partners IX, LP.(3)

- 4.11 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and InterWest Partners IX, LP.(3)
- 4.12 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3)
- 4.13 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3)
- 4.14 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3)
- 4.15 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3)
- 4.16 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3)
- 4.17 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3)
- 10.1§ License and Sublicense Agreement, dated October 28, 2003, by and between ARCA Discovery, Inc. and CPEC, L.L.C.(7)
- 10.2§* Amendment to License and Sublicense Agreement, dated February 22, 2006, by and between ARCA Discovery, Inc. and CPEC L.L.C.
- 10.3§ Exclusive License Agreement, dated October 14, 2005, by and between ARCA biopharma, Inc. and the University of Colorado s License Equity Holdings, Inc.(7)
- First Amendment to Exclusive License Agreement, dated June 23, 2006, by and between ARCA biopharma, Inc. and the University of Colorado s License Equity Holdings, Inc.(7)
- 10.5\sqrt{8} Second Amendment to Exclusive License Agreement, dated July 20, 2006, by and between ARCA biopharma, Inc. and the University of Colorado s License Equity Holdings, Inc.(7)

10.6	Third Amendment to Exclusive License Agreement, dated July 19, 2007, by and between ARCA biopharma, Inc. and the University of Colorado s License Equity Holdings, Inc.(7)
10.7§	Fourth Amendment to Exclusive License Agreement, dated August 22, 2007, by and between ARCA biopharma, Inc. and the University of Colorado s License Equity Holdings, Inc.(7)
10.8§	Diagnostic, Collaboration and Option Agreement, dated June 23, 2006, by and between ARCA biopharma, Inc. and CardioDX, Inc.(7)
10.9§	Amendment to Diagnostic, Collaboration and Option Agreement, dated October 1, 2007, by and between ARCA biopharma, Inc. and CardioDX, Inc.(7)
10.10§	Manufacturing Agreement, dated September 11, 2006, by and between ARCA biopharma, Inc. and Patheon, Inc.(7)
10.11§*	Development, Commercialization and Licensing Agreement, dated February 1, 2007, by and between ARCA biopharma, Inc. and Laboratory Corporation of America Holdings, Inc.
10.12	Amendment No. 1 to Development, Commercialization and Licensing Agreement, dated May 14, 2007, by and between ARCA biopharma, Inc. and Laboratory Corporation of America Holdings, Inc.(7)
10.13§	Amendment No. 2 to Development, Commercialization and Licensing Agreement, dated June 10, 2008, by and between ARCA biopharma, Inc. and Laboratory Corporation of America Holdings, Inc.(7)
10.14§	Unrestricted Research Grant with the University of Colorado, dated July 27, 2007, by and between ARCA Discovery, Inc. and University of Colorado Health Services Center.(7)
10.15§	Unrestricted Research Grant with the University of Colorado, dated January 16, 2009, by and between ARCA biopharma, Inc. and University of Colorado Health Services Center.(7)
10.16	Materials Transfer Agreement, dated October 14, 2005, by and between ARCA Discovery, Inc. and the University of Colorado.(7)
10.17	Lease, dated February 8, 2008, by and between ARCA Discovery, Inc. and Arista Place, LLC.(3)
10.18	Loan and Security Agreement, dated July 17, 2007, by and between ARCA biopharma, Inc. and Silicon Valley Bank.(3)
10.19	First Amendment to Loan and Security Agreement, dated January 21, 2009, by and between ARCA biopharma, Inc. and Silicon Valley Bank.(3)
10.20	Second Amendment to Loan and Security Agreement, dated March 23, 2009, by and between ARCA biopharma Colorado, Inc. and Silicon Valley Bank.(3)
10.21	Third Amendment to Loan and Security Agreement, dated April 6, 2009, by and between ARCA biopharma Colorado, Inc. and Silicon Valley Bank.(5)
10.22	Fourth Amendment to and Assumption of Loan and Security Agreement, dated April 10, 2009, by and between ARCA biopharma, Inc., ARCA biopharma Colorado, Inc. and Silicon Valley Bank.(5)
10.23	ARCA Discovery, Inc. 2004 Stock Incentive Plan.(4)
10.24	Amendment No. 1 to the ARCA Discovery, Inc. 2004 Stock Incentive Plan.(4)
10.25	Amendment No. 2 to the ARCA Discovery, Inc. 2004 Stock Incentive Plan.(4)
10.26	Amendment No. 3 to the ARCA Discovery, Inc. 2004 Stock Incentive Plan.(4)
10.27	Amendment No. 4 to the ARCA Discovery, Inc. 2004 Stock Incentive Plan.(4)
10.28	Amendment No. 5 to the ARCA Discovery, Inc. 2004 Stock Incentive Plan.(4)
10.29	Amendment No. 6 to the ARCA Discovery, Inc. 2004 Stock Incentive Plan.(4)
10.30	ARCA biopharma, Inc. 2004 Stock Incentive Plan, Form of Executive Incentive Stock Option Agreement.(4)
10.31	ARCA biopharma, Inc. 2004 Stock Incentive Plan, Form of Non-Executive Incentive Stock Option Agreement.(4)
10.32	ARCA biopharma, Inc. 2004 Stock Incentive Plan, Form of Nonqualified Stock Option Agreement.(4)
10.33	ARCA biopharma, Inc. 2004 Equity Incentive Plan (f/k/a Nuvelo, Inc. 2004 Equity Incentive Plan), Form of Partial Acceleration Stock Option Agreement.(3)

10.34	ARCA biopharma, Inc. 2004 Equity Incentive Plan (f/k/a Nuvelo, Inc. 2004 Equity Incentive Plan), Form of No Acceleration Stock Option Agreement.(3)
10.35	ARCA biopharma, Inc. 2004 Equity Incentive Plan (f/k/a Nuvelo, Inc. 2004 Equity Incentive Plan), Form of Director Stock Option Agreement.(3)
10.36	ARCA biopharma, Inc. 2004 Equity Incentive Plan (f/k/a Nuvelo, Inc. 2004 Equity Incentive Plan), Form of Notice of Grant of Stock Option.(3)
10.37	ARCA biopharma, Inc. 2004 Equity Incentive Plan (f/k/a Nuvelo, Inc. 2004 Equity Incentive Plan), Form of Notice of Director Grant of Stock Option.(3)
10.38	Form of Indemnification Agreement between ARCA biopharma, Inc. and its directors and officers.(3)
10.39	Amended and Restated Employment and Retention Agreement, dated June 4, 2008, by and between ARCA biopharma, Inc. and Michael R. Bristow.(3)
10.40	Amended and Restated Employment and Retention Agreement, dated July 7, 2008, by and between ARCA biopharma, Inc. and Richard B. Brewer.(3)
10.41	Amended and Restated Employment Agreement, dated June 12, 2008, by and between ARCA biopharma, Inc. and Christopher D. Ozeroff.(3)
10.42	Assignment and Assumption Agreement, dated January 26, 2009, by and between ARCA biopharma, Inc. and ARCA biopharma Colorado, Inc.(3)
10.43	Assignment and Assumption Agreement, dated January 26, 2009, by and between ARCA biopharma, Inc. and ARCA biopharma Colorado, Inc.(3)
10.44	Assignment and Assumption Agreement, dated January 26, 2009, by and between ARCA biopharma, Inc. and ARCA biopharma Colorado, Inc.(3)
10.45	Letter Employment Agreement, dated January 27, 2009 and effective February 2, 2009, by and between ARCA biopharma, Inc. and Lee Bendekgey.(6)
10.46	Employment Agreement, dated February 24, 2009, by and between ARCA biopharma, Inc. and Randall St. Laurent.(3)

- 10.47 Employment Agreement, dated February 23, 2009, by and between ARCA biopharma, Inc. and Kathryn E. Falberg.(3)
- 31.1* Certification of Chief Executive Officer pursuant to Rule 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 31.2* Certification of Chief Financial Officer pursuant to Rule 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 32.1[^] Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. sec. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- * Filed herewith.
- Previously filed.
 Compensatory plan or agreement.
- § Confidential treatment has been requested for portions of this document, which are omitted and filed separately with the SEC.
- (1) Previously filed with the SEC as an Exhibit to and incorporated herein by reference from Nuvelo, Inc. s Form 8-K, filed September 25, 2008, File No. 000-22873.
- (2) Previously filed with the SEC as an Exhibit to and incorporated herein by reference from Nuvelo, Inc. s Form 8-K, filed October 29, 2008, File No. 000-22873.
- (3) Previously filed with the SEC as an Exhibit to and incorporated herein by reference from ARCA biopharma, Inc. s Form 10-K, filed on March 27, 2009, File No. 000-22873.
- (4) Previously filed with the SEC as an Exhibit to and incorporated herein by reference from ARCA biopharma, Inc. s Form 8-K, filed on January 28, 2009, File No. 000-22873.
- (5) Previously filed with the SEC as an Exhibit to and incorporated herein by reference from ARCA biopharma, Inc. s Form 8-K, filed on April 10, 2009, File No. 000-22873.
- (6) Previously filed with the SEC as an Exhibit to and incorporated herein by reference from ARCA biopharma, Inc. s Form 8-K, filed on February 2, 2009, File No. 000-22873.
- (7) Previously filed with the SEC as an Exhibit to and incorporated herein by reference from ARCA biopharma, Inc. s Form 10-Q, filed on May 15, 2009, File No. 000-22873.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

ARCA biopharma, Inc.

(Registrant)

/s/ Kathryn E. Falberg By: Kathryn E. Falberg
Chief Financial Officer and Chief Operating Officer

Dated: November 6, 2009

5

EXHIBIT INDEX

Exhibit

2.1 Agreement and Plan of Merger and Reorganization, dated as of September 24, 2008, among Nuvelo, Inc., Dawn Acquisition Sub, Inc. and ARCA biopharma, Inc.(1) 2.2 Amendment No. 1 to Agreement and Plan of Merger and Reorganization dated October 28, 2008, by and among Nuvelo, Inc., Dawn Acquisition Sub, Inc., and ARCA biopharma, Inc.(2) 3.1 Amended and Restated Certificate of Incorporation of the Registrant, as amended.(3) 4.2 Amended and Restated Bylaws of the Registrant, as amended.(3) 4.3 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated July 17, 2007, by and between ARCA Discovery, Inc. and Silicon Valley Bank.(3) 4.3 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and SVB Financial Group.(3) 4.4 Warrant to Purchase Stock Agreement, dated August 19, 2008, by and between ARCA biopharma, Inc. and SVB Financial Group.(3) 4.5 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and SVB Financial Group.(3) 4.6 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV, LP.(3) 4.7 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV, LP.(3) 4.8 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV, LP.(3) 4.9 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV, LP.(3) 4.10 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and InterWest Partners IV, LP.(3) 4.11 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and InterWest Partners IV, LP.(3) 4.12 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and	Number	Description
Dawn Acquisition Sub, Inc. and ARCA biopharma, Inc.(2) 3.1 Amended and Restated Certificate of Incorporation of the Registrant, as amended.(3) 3.2 Amended and Restated Bylaws of the Registrant, as amended.(3) 4.1 Form of Common Stock Certificate.(4) 4.2 Warrant to Purchase Stock Agreement, dated July 17, 2007, by and between ARCA Discovery, Inc. and Silicon Valley Bank.(3) 4.3 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and SVB Financial Group.(3) 4.4 Warrant to Purchase Stock Agreement, dated August 19, 2008, by and between ARCA biopharma, Inc. and SVB Financial Group.(3) 4.5 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and SVB Financial Group.(3) 4.6 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3) 4.7 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3) 4.8 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma. Inc. and Boulder Ventures IV (Annex), L.P.(3) 4.9 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) 4.10 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) 4.11 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) 4.12 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.13 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.14 Warrant to Purchase Stock Agreement, date	2.1	
Amended and Restated Bylaws of the Registrant, as amended.(3) 4.1 Form of Common Stock Certificate.(4) 4.2 Warrant to Purchase Stock Agreement, dated July 17, 2007, by and between ARCA Discovery, Inc. and Silicon Valley Bank.(3) 4.3 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and SVB Financial Group.(3) 4.4 Warrant to Purchase Stock Agreement, dated August 19, 2008, by and between ARCA biopharma, Inc. and Silicon Valley Bank.(3) 4.5 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and SVB Financial Group.(3) 4.6 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3) 4.7 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3) 4.8 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) 4.9 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) 4.10 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) 4.11 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) 4.12 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.13 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.14 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.16 Warrant to Purchase Stock Agreement, dated October	2.2	
 4.1 Form of Common Stock Certificate.(4) 4.2 Warrant to Purchase Stock Agreement, dated July 17, 2007, by and between ARCA Discovery, Inc. and Silicon Valley Bank.(3) 4.3 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and SVB Financial Group.(3) 4.4 Warrant to Purchase Stock Agreement, dated August 19, 2008, by and between ARCA biopharma, Inc. and Silicon Valley Bank.(3) 4.5 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and SVB Financial Group.(3) 4.6 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3) 4.7 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3) 4.8 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) 4.9 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) 4.10 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) 4.11 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) 4.12 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.13 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.14 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) <l< th=""><th>3.1</th><th>Amended and Restated Certificate of Incorporation of the Registrant, as amended.(3)</th></l<>	3.1	Amended and Restated Certificate of Incorporation of the Registrant, as amended.(3)
 Warrant to Purchase Stock Agreement, dated July 17, 2007, by and between ARCA Discovery, Inc. and Silicon Valley Bank.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and SVB Financial Group.(3) Warrant to Purchase Stock Agreement, dated August 19, 2008, by and between ARCA biopharma, Inc. and Silicon Valley Bank.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and SVB Financial Group.(3) Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV, (Annex), L.P.(3) Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc.	3.2	Amended and Restated Bylaws of the Registrant, as amended.(3)
Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and SVB Financial Group.(3) 4.4 Warrant to Purchase Stock Agreement, dated August 19, 2008, by and between ARCA biopharma, Inc. and Silicon Valley Bank.(3) 4.5 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and SVB Financial Group.(3) 4.6 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3) 4.7 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3) 4.8 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) 4.9 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) 4.10 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) 4.11 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) 4.12 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.13 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.14 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.15 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.16 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qu	4.1	Form of Common Stock Certificate.(4)
SVB Financial Group.(3) 4.4 Warrant to Purchase Stock Agreement, dated August 19, 2008, by and between ARCA biopharma, Inc. and Silicon Valley Bank.(3) 4.5 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and SVB Financial Group.(3) 4.6 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3) 4.7 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3) 4.8 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) 4.9 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) 4.10 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) 4.11 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) 4.12 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.13 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.14 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and The PeicrIs Foundation, Inc.(3) 4.15 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The PeicrIs Foundation, Inc.(3) 4.16 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.17 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009,	4.2	Warrant to Purchase Stock Agreement, dated July 17, 2007, by and between ARCA Discovery, Inc. and Silicon Valley Bank.(3)
 Bank.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and SVB Financial Group.(3) Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV, (Annex), L.P.(3) Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) License and Sublicense Agreement, dated October 28, 2003, by and between ARCA Discovery, Inc	4.3	
 SVB Financial Group.(3) 4.6 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3) 4.7 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3) 4.8 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) 4.9 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) 4.10 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and InterWest Partners IX, LP.(3) 4.11 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and InterWest Partners IX, LP.(3) 4.12 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.13 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.14 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.15 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.16 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.17 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.18 License and Sublicense Agreement, dated October 28, 2003, b	4.4	
L.P.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV, L.P.(3) Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and InterWest Partners IX, LP.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and InterWest Partners IX, LP.(3) Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3)	4.5	
Boulder Ventures IV, L.P.(3) 4.8 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) 4.9 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) 4.10 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) 4.11 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) 4.12 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.13 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.14 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.15 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.16 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.17 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.17 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.18 License and Sublicense Agreement, dated October 28, 2003, by and between ARCA Discovery, Inc. and CPEC,	4.6	
Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Boulder Ventures IV (Annex), L.P.(3) 4.10 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) 4.11 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and InterWest Partners IX, L.P.(3) 4.12 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.13 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.14 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.15 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.16 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.17 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.18 License and Sublicense Agreement, dated October 28, 2003, by and between ARCA Discovery, Inc. and CPEC,	4.7	
Boulder Ventures IV (Annex), L.P.(3) 4.10 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and InterWest Partners IX, LP.(3) 4.11 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and InterWest Partners IX, LP.(3) 4.12 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.13 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.14 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.15 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.16 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.17 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.18 License and Sublicense Agreement, dated October 28, 2003, by and between ARCA Discovery, Inc. and CPEC,	4.8	
IX, LP.(3) 4.11 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and InterWest Partners IX, LP.(3) 4.12 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.13 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.14 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.15 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.16 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.17 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.18 License and Sublicense Agreement, dated October 28, 2003, by and between ARCA Discovery, Inc. and CPEC,	4.9	
InterWest Partners IX, LP.(3) 4.12 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.13 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.14 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.15 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.16 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.17 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 10.1§ License and Sublicense Agreement, dated October 28, 2003, by and between ARCA Discovery, Inc. and CPEC,	4.10	
 VII, L.P.(3) 4.13 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Atlas Venture Fund VII, L.P.(3) 4.14 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.15 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.16 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.17 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 10.1§ License and Sublicense Agreement, dated October 28, 2003, by and between ARCA Discovery, Inc. and CPEC, 	4.11	
Atlas Venture Fund VII, L.P.(3) 4.14 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.15 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.16 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.17 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 10.1§ License and Sublicense Agreement, dated October 28, 2003, by and between ARCA Discovery, Inc. and CPEC,	4.12	
Foundation, Inc.(3) 4.15 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and The Peierls Foundation, Inc.(3) 4.16 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.17 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 10.18 License and Sublicense Agreement, dated October 28, 2003, by and between ARCA Discovery, Inc. and CPEC,	4.13	
The Peierls Foundation, Inc.(3) 4.16 Warrant to Purchase Stock Agreement, dated October 10, 2008, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 4.17 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 10.18 License and Sublicense Agreement, dated October 28, 2003, by and between ARCA Discovery, Inc. and CPEC,	4.14	
Partners Qualified Purchaser Fund IV, L.P.(3) 4.17 Amendment No. 1 to Warrant to Purchase Stock Agreement, dated February 19, 2009, by and between ARCA biopharma, Inc. and Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 10.18 License and Sublicense Agreement, dated October 28, 2003, by and between ARCA Discovery, Inc. and CPEC,	4.15	
Skyline Venture Partners Qualified Purchaser Fund IV, L.P.(3) 10.1\Sqrt{10.1} License and Sublicense Agreement, dated October 28, 2003, by and between ARCA Discovery, Inc. and CPEC,	4.16	
	4.17	
	10.1§	

10.2§*	Amendment to License and Sublicense Agreement, dated February 22, 2006, by and between ARCA Discovery, Inc. and CPEC L.L.C.
10.3§	Exclusive License Agreement, dated October 14, 2005, by and between ARCA biopharma, Inc. and the University of Colorado s License Equity Holdings, Inc.(7)
10.4§	First Amendment to Exclusive License Agreement, dated June 23, 2006, by and between ARCA biopharma, Inc. and the University of Colorado s License Equity Holdings, Inc.(7)
10.5§	Second Amendment to Exclusive License Agreement, dated July 20, 2006, by and between ARCA biopharma, Inc. and the University of Colorado s License Equity Holdings, Inc.(7)
10.6	Third Amendment to Exclusive License Agreement, dated July 19, 2007, by and between ARCA biopharma, Inc. and the University of Colorado s License Equity Holdings, Inc.(7)
10.7§	Fourth Amendment to Exclusive License Agreement, dated August 22, 2007, by and between ARCA biopharma, Inc. and the University of Colorado s License Equity Holdings, Inc.(7)
10.8§	Diagnostic, Collaboration and Option Agreement, dated June 23, 2006, by and between ARCA biopharma, Inc. and CardioDX, Inc.(7)
10.9§	Amendment to Diagnostic, Collaboration and Option Agreement, dated October 1, 2007, by and between ARCA biopharma, Inc. and CardioDX, Inc.(7)
10.10§	Manufacturing Agreement, dated September 11, 2006, by and between ARCA biopharma, Inc. and Patheon, Inc.(7)
10.11§*	Development, Commercialization and Licensing Agreement, dated February 1, 2007, by and between ARCA biopharma, Inc. and Laboratory Corporation of America Holdings, Inc.
10.12	Amendment No. 1 to Development, Commercialization and Licensing Agreement, dated May 14, 2007, by and between ARCA biopharma, Inc. and Laboratory Corporation of America Holdings, Inc.(7)

10.13§	Amendment No. 2 to Development, Commercialization and Licensing Agreement, dated June 10, 2008, by and between ARCA biopharma, Inc. and Laboratory Corporation of America Holdings, Inc.(7)
10.14§	Unrestricted Research Grant with the University of Colorado, dated July 27, 2007, by and between ARCA Discovery, Inc. and University of Colorado Health Services Center.(7)
10.15§	Unrestricted Research Grant with the University of Colorado, dated January 16, 2009, by and between ARCA biopharma, Inc. and University of Colorado Health Services Center.(7)
10.16	Materials Transfer Agreement, dated October 14, 2005, by and between ARCA Discovery, Inc. and the University of Colorado.(7)
10.17	Lease, dated February 8, 2008, by and between ARCA Discovery, Inc. and Arista Place, LLC.(3)
10.18	Loan and Security Agreement, dated July 17, 2007, by and between ARCA biopharma, Inc. and Silicon Valley Bank.(3)
10.19	First Amendment to Loan and Security Agreement, dated January 21, 2009, by and between ARCA biopharma, Inc. and Silicon Valley Bank.(3)
10.20	Second Amendment to Loan and Security Agreement, dated March 23, 2009, by and between ARCA biopharma Colorado, Inc. and Silicon Valley Bank.(3)
10.21	Third Amendment to Loan and Security Agreement, dated April 6, 2009, by and between ARCA biopharma Colorado, Inc. and Silicon Valley Bank.(5)
10.22	Fourth Amendment to and Assumption of Loan and Security Agreement, dated April 10, 2009, by and between ARCA biopharma, Inc., ARCA biopharma Colorado, Inc. and Silicon Valley Bank.(5)
10.23	ARCA Discovery, Inc. 2004 Stock Incentive Plan.(4)
10.24	Amendment No. 1 to the ARCA Discovery, Inc. 2004 Stock Incentive Plan.(4)
10.25	Amendment No. 2 to the ARCA Discovery, Inc. 2004 Stock Incentive Plan.(4)
10.26	Amendment No. 3 to the ARCA Discovery, Inc. 2004 Stock Incentive Plan.(4)
10.27	Amendment No. 4 to the ARCA Discovery, Inc. 2004 Stock Incentive Plan.(4)
10.28	Amendment No. 5 to the ARCA Discovery, Inc. 2004 Stock Incentive Plan.(4)
10.29	Amendment No. 6 to the ARCA Discovery, Inc. 2004 Stock Incentive Plan.(4)
10.30	ARCA biopharma, Inc. 2004 Stock Incentive Plan, Form of Executive Incentive Stock Option Agreement.(4)
10.31	ARCA biopharma, Inc. 2004 Stock Incentive Plan, Form of Non-Executive Incentive Stock Option Agreement.(4)
10.32	ARCA biopharma, Inc. 2004 Stock Incentive Plan, Form of Nonqualified Stock Option Agreement.(4)
10.33	ARCA biopharma, Inc. 2004 Equity Incentive Plan (f/k/a Nuvelo, Inc. 2004 Equity Incentive Plan), Form of Partial Acceleration Stock Option Agreement.(3)
10.34	ARCA biopharma, Inc. 2004 Equity Incentive Plan (f/k/a Nuvelo, Inc. 2004 Equity Incentive Plan), Form of No Acceleration Stock Option Agreement.(3)
10.35	ARCA biopharma, Inc. 2004 Equity Incentive Plan (f/k/a Nuvelo, Inc. 2004 Equity Incentive Plan), Form of Director Stock Option Agreement.(3)
10.36	ARCA biopharma, Inc. 2004 Equity Incentive Plan (f/k/a Nuvelo, Inc. 2004 Equity Incentive Plan), Form of Notice of Grant of Stock Option.(3)
10.37	ARCA biopharma, Inc. 2004 Equity Incentive Plan (f/k/a Nuvelo, Inc. 2004 Equity Incentive Plan), Form of Notice of Director Grant of Stock Option.(3)
10.38	Form of Indemnification Agreement between ARCA biopharma, Inc. and its directors and officers.(3)
10.39	Amended and Restated Employment and Retention Agreement, dated June 4, 2008, by and between ARCA biopharma, Inc. and Michael R. Bristow.(3)
10.40	Amended and Restated Employment and Retention Agreement, dated July 7, 2008, by and between ARCA biopharma, Inc. and Richard B. Brewer.(3)
10.41	Amended and Restated Employment Agreement, dated June 12, 2008, by and between ARCA biopharma, Inc. and Christopher D. Ozeroff.(3)

10.42	Assignment and Assumption Agreement, dated January 26, 2009, by and between ARCA biopharma, Inc. and ARCA biopharma Colorado, Inc.(3)
10.43	Assignment and Assumption Agreement, dated January 26, 2009, by and between ARCA biopharma, Inc. and ARCA biopharma Colorado, Inc.(3)
10.44	Assignment and Assumption Agreement, dated January 26, 2009, by and between ARCA biopharma, Inc. and ARCA biopharma Colorado, Inc.(3)
10.45	Letter Employment Agreement, dated January 27, 2009 and effective February 2, 2009, by and between ARCA biopharma, Inc. and Lee Bendekgey.(6)
10.46	Employment Agreement, dated February 24, 2009, by and between ARCA biopharma, Inc. and Randall St. Laurent.(3)
10.47	Employment Agreement, dated February 23, 2009, by and between ARCA biopharma, Inc. and Kathryn E. Falberg.(3)
31.1*	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1^	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. sec. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

 ^{*} Filed herewith.

[^] Previously filed.

Compensatory plan or agreement.

[§] Confidential treatment has been requested for portions of this document, which are omitted and filed separately with the SEC.

- (1) Previously filed with the SEC as an Exhibit to and incorporated herein by reference from Nuvelo, Inc. s Form 8-K, filed September 25, 2008, File No. 000-22873.
- (2) Previously filed with the SEC as an Exhibit to and incorporated herein by reference from Nuvelo, Inc. s Form 8-K, filed October 29, 2008, File No. 000-22873.
- (3) Previously filed with the SEC as an Exhibit to and incorporated herein by reference from ARCA biopharma, Inc. s Form 10-K, filed on March 27, 2009, File No. 000-22873.
- (4) Previously filed with the SEC as an Exhibit to and incorporated herein by reference from ARCA biopharma, Inc. s Form 8-K, filed on January 28, 2009, File No. 000-22873.
- (5) Previously filed with the SEC as an Exhibit to and incorporated herein by reference from ARCA biopharma, Inc. s Form 8-K, filed on April 10, 2009, File No. 000-22873.
- (6) Previously filed with the SEC as an Exhibit to and incorporated herein by reference from ARCA biopharma, Inc. s Form 8-K, filed on February 2, 2009, File No. 000-22873.
- (7) Previously filed with the SEC as an Exhibit to and incorporated herein by reference from ARCA biopharma, Inc. s Form 10-Q, filed on May 15, 2009, File No. 000-22873.