ARCA biopharma, Inc. Form S-8 POS February 13, 2009

As filed with the Securities and Exchange Commission on February 13, 2009

Registration No. 333-154839

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 1 ON

FORM S-8

TO

FORM S-4

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

ARCA BIOPHARMA, INC.

 $(Exact\ name\ of\ registrant\ as\ specified\ in\ its\ charter)$

Delaware (State or other jurisdiction of incorporation or organization)

36-3855489 (I.R.S. Employer Identification No.)

8001 Arista Place, Suite 200

Broomfield, CO 80021

(Address of Principal Executive Offices, Zip Code)

ARCA DISCOVERY, INC. 2004 STOCK INCENTIVE PLAN

(Full title of the plan)

Christopher D. Ozeroff

Executive Vice President of Business Development and General Counsel

ARCA biopharma, Inc.

8001 Arista Place, Suite 200

Broomfield, CO 80021

(720) 940-2200

(Name, address and telephone number, including area code, of agent for service)

With a copy to:

Keith Trammell, Esq.

Hogan & Hartson L.L.P.

One Tabor Center, Suite 1500

1200 Seventeenth Street

Denver, Colorado 80202

(303) 899-7300

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 "Non-Accelerated filer "

Accelerated filer b Smaller reporting company "

(Do not check if a smaller reporting company)

CALCULATION OF REGISTRATION FEE

Title of securities	Amount	Amount Proposed maximum		Amount of registration
	to be	offering price	Proposed maximum aggregate offering	O
to be registered	Registered (1)	per share (2)	price (2)	fee (2)
Common Stock, par value \$0.01 per share	722,686 shares	N/A	N/A	N/A

- (1) This Post-Effective Amendment No. 1 on Form S-8 to Registration Statement on Form S-4 covers 722,686 shares of the registrant s common stock originally registered on the Registration Statement on Form S-4 to which this is an amendment. Such shares are issuable pursuant to the ARCA Discovery, Inc. 2004 Stock Incentive Plan (the Plan), which Plan and the options outstanding thereunder were assumed by the registrant in connection with the merger of a wholly-owned subsidiary of the registrant with and into ARCA biopharma Colorado, Inc., formerly known as ARCA biopharma, Inc. and ARCA Discovery, Inc. (ABI) with ABI surviving as a wholly-owned subsidiary of the registrant. See Explanatory Note.
- (2) All filing fees payable in connection with the registration of these shares of the registrant s common stock were calculated and paid at the time of the original filing of the Registration Statement of Form S-4 (No. 333-154839), declared effective on November 25, 2008.

EXPLANATORY NOTE

ARCA biopharma, Inc., formerly known as Nuvelo, Inc., a Delaware corporation (the Registrant), hereby amends its Registration Statement on Form S-4 (File No. 333-154839), which was declared effective on November 25, 2008, (the Form S-4), by filing this Post-Effective Amendment No. 1 on Form S-8 covering the registration of 722,686 shares of the Registrant s common stock, par value \$0.001 per share. All such shares are issuable by the Registrant upon the exercise of outstanding stock options granted under the Plan and were originally registered on the Form S-4, which was filed by the Registrant in connection with the merger (the Merger) of a wholly-owned subsidiary of the Registrant (Merger-Sub) with and into ABI with ABI surviving as a wholly-owned subsidiary of the Registrant. At the effective time of the Merger, and pursuant to the Agreement and Plan of Merger dated September 24, 2008 by and among the Registrant, ABI and Merger Sub, as amended (the Merger Agreement), the Registrant assumed all of ABI s obligations under the Plan and each option outstanding thereunder, provided that the obligation to issue shares of Registrant s stock, as adjusted to reflect the exchange ratio set forth in the Merger Agreement, was substituted for the obligation to issue shares of ABI stock.

PART I

INFORMATION REQUIRED IN SECTION 10(a) PROSPECTUS

Item 1. Plan Information.*

Item 2. Registrant Information and Employee Plan Annual Information.*

* The documents containing the information specified in Part I will be sent or given to participants in the Plan as specified by Rule 428(b)(1) under the Securities Act. According to the Note to Part I of Form S-8, such documents need not be filed with the Commission either as part of this registration statement or as prospectuses or prospectus supplements pursuant to Rule 424 under the Securities Act. These documents and the documents incorporated by reference pursuant to Item 3 of Part II of this registration statement, taken together, constitute the prospectus as required by Section 10(a) of the Securities Act.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents and all other documents subsequently filed with the Commission by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, as amended (the Exchange Act), prior to the filing of a post-effective amendment that indicates that all the shares of common stock offered hereby have been sold or that deregisters all such shares of common stock then remaining unsold, are hereby incorporated herein by reference to be a part of this registration statement from the date of filing of such documents:

- (a) The Registrant s Annual Report on Form 10-K for its fiscal year ended December 31, 2007, filed March 12, 2008;
- (b) The Registrant s Quarterly Reports on Form 10-Q for the quarters ended March 31, 2008, June 30, 2008, and September 30, 2008, filed May 9, 2008, July 24, 2008 and November 5, 2008, respectively;
- (c) The Registrant s Current Reports on Form 8-K as filed January 14, 2008, January 31, 2008, March 17, 2008 (as amended by that Current Report on Form 8-K/A filed March 25, 2008), April 14, 2008, May 2, 2008 (as amended by that Current Report on Form 8-K/A filed on October 28, 2008), September 25, 2008, October 29, 2008, December 1, 2008, December 31, 2008, January 8, 2009, January 13, 2009, January 23, 2009, January 27, 2009, January 28, 2009 (as amended by that Current Report on Form 8-K/A filed January 29, 2009) and February 2, 2009 (except for portions of such reports which were deemed to be furnished and not filed); and

(d) The description of the Registrant s common stock contained in the Registrant s Registration Statement on Form 8-A filed under the Exchange Act, including any amendment or report filed for the purpose of updating such description.

Any statement contained in a document incorporated or deemed to be incorporated by reference shall be deemed to be modified or superseded to the extent that a statement contained in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such prior statement. Any such statement so modified or superseded shall not be deemed to constitute a part of this registration statement, except as so modified or superseded.

Item 4. Description of Securities.

Not Applicable.

Item 5. Interests of Named Experts and Counsel.

Not Applicable.

Item 6. Indemnification of Officers and Directors.

As permitted by Section 102 of the Delaware General Corporation Law, the Registrant has adopted provisions in its amended and restated certificate of incorporation and amended and restated bylaws that limit or eliminate the personal liability of its directors for a breach of their fiduciary duty of care as a director. The duty of care generally requires that, when acting on behalf of the corporation, directors exercise an informed business judgment based on all material information reasonably available to them. Consequently, a director will not be personally liable to the Registrant or its stockholders for monetary damages or breach of fiduciary duty as a director, except for liability for:

any breach of the director s duty of loyalty to the Registrant or its stockholders;

any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;

any act related to unlawful stock repurchases, redemptions or other distributions or payment of dividends; or

any transaction from which the director derived an improper personal benefit.

These limitations of liability do not affect the availability of equitable remedies such as injunctive relief or rescission. The Registrant s amended and restated certificate of incorporation also authorizes us to indemnify its officers, directors and other agents to the fullest extent permitted under Delaware law.

As permitted by Section 145 of the Delaware General Corporation Law, the Registrant s amended and restated bylaws provide that:

The Registrant may indemnify its directors, officers, and employees to the fullest extent permitted by the Delaware General Corporation Law, subject to limited exceptions;

The Registrant may advance expenses to our directors, officers and employees in connection with a legal proceeding to the fullest extent permitted by the Delaware General Corporation Law, subject to limited exceptions; and

the rights provided in the Registrant s amended and restated bylaws are not exclusive.

The Registrant s amended and restated certificate of incorporation and its amended and restated bylaws provide for the indemnification provisions described above. The Registrant also has entered into indemnification agreements with certain of its current officers and directors.

The indemnification agreements provide such persons indemnification against, among other things, any and all expenses, judgments, fines, penalties, and amounts paid in settlement by the director or officer, provide for the advancement of expenses incurred by the director or officer in connection with any proceeding and obligate the director or officer to reimburse the Registrant for all amounts so advanced if it is subsequently determined, as provided in the indemnification agreements, that the director or officer is not entitled to indemnification. These indemnification provisions and the indemnification agreements may be sufficiently broad to permit indemnification of its officers and directors for liabilities, including reimbursement of expenses incurred, arising under the Securities Act of 1933, as amended.

In addition, the Registrant has purchased a policy of directors and officers liability insurance that insures its directors and officers against the cost of defense, settlement or payment of a judgment in some circumstances.

Item 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

Exhibit No.	Description of Exhibit
5.1	Opinion of Hogan & Hartson L.L.P. with respect to the legality of the common stock registered hereby.
23.1	Consent of Hogan & Hartson L.L.P. (included in Exhibit 5.1).
23.2	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
23.3	Consent of KPMG LLP, Independent Registered Public Accounting Firm.
 23.4	Consent of KPMG LLP, Independent Registered Public Accounting Firm.

Item 9. Undertakings.

The undersigned Registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
- (i) To include any prospectus required by section 10(a)(3) of the Securities Act;
- (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if total dollar value securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) of the Securities Act if, in the aggregate, the changes in volume and price represent not more than 20% change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective registration statement;
- (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (1)(i) and (1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Post-Effective Amendment No. 1 on Form S-8 to Registration Statement on Form S-4 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Broomfield, State of Colorado, on February 13, 2009.

ARCA biopharma, Inc.

By: /s/ Richard B. Brewer Name: Richard B. Brewer

Title: President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Post-Effective Amendment No. 1 on Form S-8 to Registration Statement on Form S-4 has been signed by the following persons in the capacities and on the date indicated.

Signature	Position	Date
/s/ Richard B. Brewer Richard B. Brewer	President and Chief Executive Officer and Director	February 13, 2009
/s/ Lee Bendekgey Lee Bendekgey	Chief Financial Officer	February 13, 2009
/s/ Michael R. Bristow, M.D., Ph.D. Michael R. Bristow, M.D., Ph.D.	Director	February 13, 2009
/s/ Jean-Francois Formela, M.D. Jean-Francois Formela, M.D.	Director	February 13, 2009
/s/ J. William Freytag, Ph.D. J. William Freytag, Ph.D.	Director	February 13, 2009
/s/ Linda Grais, M.D. Linda Grais, M.D.	Director	February 13, 2009
Ted. W. Love, M.D.	Director	
/s/ David G. Lowe, Ph.D David G. Lowe, Ph.D	Director	February 13, 2009
/s/ Mary K. Pendergast Mary K. Pendergast	Director	February 13, 2009

/s/ Burton E. Sobel, M.D. Director February 13, 2009

Burton E. Sobel, M.D.

/s/ John L. Zabriskie, Ph.D. Director February 13, 2009

John L. Zabriskie, Ph.D.

EXHIBIT INDEX

Exhibit No.	Description of Exhibit
5.1	Opinion of Hogan & Hartson L.L.P. with respect to the legality of the common stock registered hereby.
23.1	Consent of Hogan & Hartson L.L.P. (included in Exhibit 5.1).
23.2	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
23.3	Consent of KPMG LLP, Independent Registered Public Accounting Firm.
23.4	Consent of KPMG LLP, Independent Registered Public Accounting Firm.