

BRISTOW MICHAEL R  
Form SC 13G  
December 28, 2012

**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

**WASHINGTON, D.C. 20549**

**SCHEDULE 13G**

**UNDER THE SECURITIES EXCHANGE ACT OF 1934**

**ARCA BIOPHARMA, INC.**

**(Name of Issuer)**

**COMMON STOCK, \$0.001 PAR VALUE**

**(Title of Class of Securities)**

**00211Y100**

**(CUSIP Number)**

**DECEMBER 20, 2012**

**(Date of Event Which Requires Filing of This Statement)**

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

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Rule 13d-1(b)

Rule 13d-1(c)

Rule 13d-1(d)

\* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page. The information required in the remainder of this cover page shall not be deemed to be filed for the purpose of Section 18 of the Securities Exchange Act of 1934 ( Act ) or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

1. Name of Reporting Persons

**Michael R. Bristow, M.D., Ph.D.**

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a) " (b) "

3. SEC USE ONLY

4. Citizenship or Place of Organization

**United States of America**

5. Sole Voting Power

Number of

Shares **1,798,153 (1)**  
6. Shared Voting Power

Beneficially

Owned by **0**  
Each 7. Sole Dispositive Power

Reporting

Person **1,798,153 (1)**  
8. Shared Dispositive Power

With:

0

9. Aggregate Amount Beneficially Owned by Each Reporting Person

**1,798,153 (1)**

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) "

11. Percent of Class Represented by Amount in Row (9)

**10.8% (2)**

12. Type of Reporting Person (See Instructions)

**IN**

- (1) Includes (i) 57,716 shares issuable upon exercise of options exercisable within 60 days of December 20, 2012, (ii) 280,071 shares held directly by Michael R. Bristow, M.D., Ph.D. ( Dr. Bristow ), (iii) 834,495 shares held by Investocor Trust (the Trust ), of which Dr. Bristow is the sole trustee and (iv) 625,871 shares issuable upon exercise of warrants to purchase common stock held by the Trust that were fully vested and exercisable upon issuance.
- (2) This percentage is calculated based upon 15,961,898 shares of the Issuer s common stock outstanding as of December 21, 2012.

CUSIP No. 00211Y100

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Item 1(a) Name of Issuer

ARCA biopharma, Inc.

Item 1(b) Address of Issuer's Principal Executive Offices

8001 Arista Place, Suite 430

Broomfield, CO 80021

Item 2(a) Name of Person Filing

Michael R. Bristow, M.D., Ph.D ( Dr. Bristow )

Item 2(b) Address of Principal Business Office or, if none, Residence

c/o ARCA biopharma, Inc.

8001 Arista Place, Suite 430

Broomfield, CO 80021

Item 2(c) Citizenship

Dr. Bristow is a natural person and is a citizen of the United States of America.

Item 2(d) Title of Class of Securities

Common Stock, \$0.001 par value

Item 2(e) CUSIP Number

00211Y100

Item 3 Not applicable.

Item 4 Ownership

|                                 | Shares Held<br>Directly (1) | Sole Voting<br>Power (1) | Shared<br>Voting<br>Power | Sole<br>Dispositive<br>Power (1) | Shared<br>Dispositive<br>Power | Beneficial<br>Ownership (1) | Percentage<br>of Class (2) |
|---------------------------------|-----------------------------|--------------------------|---------------------------|----------------------------------|--------------------------------|-----------------------------|----------------------------|
| Michael R. Bristow, M.D., Ph.D. | 1,798,153                   | 1,798,153                | 0                         | 1,798,153                        | 0                              | 1,798,153                   | 10.8%                      |

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- (2) This percentage is calculated based upon 15,961,898 shares of the Issuer's common stock outstanding as of December 21, 2012.

Item 5            Ownership of Five Percent or Less of a Class

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following. "

Item 6            Ownership of More than Five Percent of Another Person

Not applicable

Item 7            Identification and Classification of the Subsidiary which Acquired the Security Being Reported on by the Parent Holding Company

Not applicable.

Item 8      Identification and Classification of Members of the Group

Not applicable.

Item 9      Notice of Dissolution of Group

Not applicable.

Item 10      Certification

By signing below, I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect, other than activities solely in connection with a nomination under § 240.14a-11.

**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.

EXECUTED this 28<sup>th</sup> day of December, 2012.

/s/ Michael R. Bristow  
**MICHAEL R. BRISTOW, M.D., Ph.D.**