

PROSPECTUS SUPPLEMENT NO. 4 DATED JUNE 17, 2015
TO
PROSPECTUS DATED MAY 22, 2015
(AS SUPPLEMENTED)

ARCH THERAPEUTICS, INC.

PROSPECTUS

Up to 31,279,926 Shares of Common Stock

This Prospectus Supplement No. 4 supplements the prospectus of Arch Therapeutics, Inc. (“the **“Company”**”, “we”, “us”, or “our”) dated May 22, 2015 (as supplemented to date, the “**Prospectus**”) with the following attached document which we filed with the Securities and Exchange Commission on June 17, 2015:

- A. Our Current Report on Form 8-K filed with the Securities and Exchange Commission on June 17, 2015

This Prospectus Supplement No. 4 should be read in conjunction with the Prospectus, which is required to be delivered with this Prospectus Supplement. This prospectus supplement updates, amends and supplements the information included in the Prospectus. If there is any inconsistency between the information in the Prospectus and this prospectus supplement, you should rely on the information in this prospectus supplement.

This prospectus supplement is not complete without, and may not be delivered or utilized except in connection with, the Prospectus, including any amendments or supplements to it.

Investing in our common stock involves a high degree of risk. Before making any investment in our common stock, you should carefully consider the risk factors for our common stock, which are described in the Prospectus, as amended or supplemented.

You should rely only on the information contained in the Prospectus, as supplemented or amended by this Prospectus Supplement No. 4 and any other prospectus supplement or amendment thereto. We have not authorized anyone to provide you with different information.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this Prospectus Supplement No. 4 is June 17, 2015

INDEX TO FILINGS

Annex

The Company’s Current Report on Form 8-K filed with the Securities and Exchange Commission on June 17, 2015

A

ANNEX A

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 OR 15(d) of The Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): **June 11, 2015**

ARCH THERAPEUTICS, INC.

(Exact name of registrant as specified in its charter)

Nevada
(State or other jurisdiction
of incorporation)

000-54986
(Commission
File Number)

46-0524102
(I.R.S. Employer
Identification No.)

235 Walnut Street, Suite 6
Framingham, Massachusetts
(Address of principal executive offices)

02481
(Zip Code)

Registrant's telephone number, including area code: **(617) 431-2313**

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- ☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - ☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - ☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - ☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

(b), (e)

On June 11, 2015, William M. Cotter informed Arch Therapeutics, Inc. (the “**Company**”) of his desire to retire and resign from his role as the Chief Operating Officer (the “**COO**”) of the Company. On June 15, 2015, the Company and Mr. Cotter entered into a Separation Agreement (the “**Separation Agreement**”) pursuant to which Mr. Cotter resigned as an employee and as the Company’s COO, agreed to the termination of that certain Executive Employment Agreement by and between the Company and Mr. Cotter effective as of July 2, 2013 and as amended effective March 13, 2014, and agreed to provide certain advisory services to the Company.

Under the terms of the Separation Agreement, which also contains customary post-employment covenants, the Company has agreed to (i) pay Mr. Cotter \$60,000 (less applicable withholding and customary payroll deductions), which shall be payable over three months in accordance with the Company’s pay policies; and (ii) provide Mr. Cotter healthcare reimbursements for a three-month period at an amount of up to \$2,500.00 per month.

The foregoing description of the Separation Agreement does not purport to be complete and is qualified in its entirety by reference to the Separation Agreement, a copy of which the Company expects to file with the Company’s applicable Quarterly Report on Form 10-Q.

SIGNATURES

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.

ARCH THERAPEUTICS, INC.

Dated: June 17, 2015

By: /s/ Terrence W. Norchi, M.D.

Name: Terrence W. Norchi, M.D.

Title: President, Chief Executive Officer
