

PROSPECTUS SUPPLEMENT NO. 12 DATED MAY 16, 2016
TO
PROSPECTUS DATED JANUARY 15, 2016
(AS SUPPLEMENTED)

ARCH THERAPEUTICS, INC.

PROSPECTUS

Up to 25,590,599 Shares of Common Stock

This Prospectus Supplement No. 12 supplements the prospectus of Arch Therapeutics, Inc. (“the **Company**”, “**we**”, “**us**”, or “**our**”) dated January 15, 2016 (as supplemented to date, the “**Prospectus**”) with the following attached documents which we filed with the Securities and Exchange Commission :

A. Our Current Report on Form 8-K filed with the Securities and Exchange Commission on May 16, 2016

This Prospectus Supplement No. 12 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. 12 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. 12 is May 16, 2016

INDEX TO FILINGS

Annex

The Company’s Current Report on Form 8-K filed with the Securities and Exchange Commission on May 16, 2016

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): **May 16, 2016**

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)

01702
(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 8.01 Other Events.

On May 16, 2016, Arch Therapeutics, Inc. (the “**Company**”) issued a press release announcing that a notice of allowance from the U.S. Patent Office has been received on a broad composition of matter patent that is assigned to the Massachusetts Institute of Technology (MIT) and Versitech Limited, and which is exclusively licensed worldwide to the Company. The text of the press release is attached hereto as Exhibit 99.1 and is incorporated by reference herein.

Item 9.01 Financial Statements and Exhibit

(d) Exhibits

| Exhibit | Description |
|----------------|---|
| 99.1 | Press Release issued by Arch Therapeutics, Inc. on May 16, 2016 |

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: May 16, 2016

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

Name: Terrence W. Norchi, M.D.

Title: President, Chief Executive Officer

Exhibit List

| Exhibit | Description |
|----------------|---|
| 99.1 | Press Release issued by Arch Therapeutics, Inc. on May 16, 2016 |

Arch Therapeutics Announces Issuance of Composition of Matter Patent Covering Self-Assembling Peptidomimetics

U.S. Patent Addresses Self-Assembling Peptidomimetics that form Barrier Structures on Tissue and Inhibit or Prevent the Passage of Bodily Fluids and Contaminants

FRAMINGHAM, MA – May 16, 2016 — Arch Therapeutics, Inc. (OTCQB: ARTH) (“Arch” or the “Company”), developer of the AC5 Surgical Hemostatic Device™ (AC5™) for use in controlling bleeding and fluid loss in order to provide faster and safer surgical and interventional care, announced that the U.S. Patent Office has issued a composition of matter patent, which is assigned to the Massachusetts Institute of Technology (MIT) and Versitech Limited, and which is exclusively licensed worldwide to Arch.

The broad composition claims of the patent cover products that contain non-classical peptide molecules, called peptidomimetics, which self-assemble into barrier structures on tissue that inhibit or prevent the passage of bodily fluids. The peptidomimetic molecules mimic peptide structure, have general features analogous to a parent peptide, and can have properties that are advantageous when compared to the otherwise similar peptides that they mimic. Examples of potential products covered by this patent include hemostatic agents to stop bleeding, and self-assembled barrier structures that prevent contamination and stop leaks.

Dr. Terrence W. Norchi, President and CEO of Arch Therapeutics, said, “This patent covers self-assembling non-classical peptide products, which are separate from the classical self-assembling peptides we are known to be developing, and which may unlock novel features of potential future products. In the meantime, we continue to guide our first product in development, AC5, along the pathway toward regulatory approval, and we look forward to the conclusion of our first human trial in Europe.”

Arch has filed its own patent applications and, in addition, has licensed worldwide exclusive rights to certain patents and patent applications assigned jointly to MIT and Versitech Limited, the technology transfer company of the University of Hong Kong, and worldwide non-exclusive rights to another portfolio of patents assigned jointly to MIT and Versitech Limited. The applications and rights cover self-assembling compositions and methods of making and using such compositions for medical applications including stopping bleeding; preventing the movement of bodily fluids, contaminants, etc., within or on the human body; preventing adhesions; treatment of leaky or damaged tight junctions; and reinforcement of weak or damaged vessels, such as aneurysms, with patents covering this technology in the United States, Europe, Israel, Japan, Canada, Australia, Hong Kong and China. Additional patent applications are pending in multiple jurisdictions.

About Arch Therapeutics, Inc.

Arch Therapeutics, Inc. is a medical device company developing a novel approach to stop bleeding (hemostasis) and control leaking (sealant) during surgery and trauma care. Arch is developing products based on an innovative self-assembling peptide technology platform to make surgery and interventional care faster and safer for patients. Arch's flagship development stage product candidate, known as the AC5 Surgical Hemostatic Device™, is being designed to achieve hemostasis in surgical procedures.

Notice Regarding Forward-Looking Statements

This news release contains "forward-looking statements" as that term is defined in Section 27(a) of the Securities Act of 1933, as amended, and Section 21(e) of the Securities Exchange Act of 1934, as amended. Statements in this press release that are not purely historical are forward-looking statements and include any statements regarding beliefs, plans, expectations or intentions regarding the future. Such forward-looking statements include, among other things, references to novel technologies and methods, our business and product development plans and projections, or market information. Actual results could differ from those projected in any forward-looking statements due to numerous factors. Such factors include, among others, the inherent uncertainties associated with developing new products or technologies and operating as a development stage company, our ability to retain important members of our management team and attract other qualified personnel, our ability to raise the additional funding we will need to continue to pursue our business and product development plans, our ability to obtain required regulatory approvals, our ability to develop and commercialize products based on our technology platform, and market conditions. These forward-looking statements are made as of the date of this news release, and we assume no obligation to update the forward-looking statements, or to update the reasons why actual results could differ from those projected in the forward-looking statements. Although we believe that any beliefs, plans, expectations and intentions contained in this press release are reasonable, there can be no assurance that any such beliefs, plans, expectations or intentions will prove to be accurate. Investors should consult all of the information set forth herein and should also refer to the risk factors disclosure outlined in the reports and other documents we file with the SEC, available at www.sec.gov.

On Behalf of the Board,
Terrence W. Norchi, MD
Arch Therapeutics, Inc.

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