

PROSPECTUS SUPPLEMENT NO. 1 DATED DECEMBER 6, 2016
TO
PROSPECTUS DATED NOVEMBER 25, 2016
(AS SUPPLEMENTED)

ARCH THERAPEUTICS, INC.

PROSPECTUS

Up to 9,415,546 Shares of Common Stock

This Prospectus Supplement No. 1 supplements the prospectus of Arch Therapeutics, Inc. (“the **Company**”, “**we**”, “**us**”, or “**our**”) dated November 25, 2016 (as supplemented to date, the “**Prospectus**”) with the following additions and changes:

A. Amend the Selling Securityholder information set forth in the Prospectus.

This Prospectus Supplement No. 1 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. 1 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. 1 is December 6, 2016

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ANNEX A

AMENDMENT TO SELLING SECURITYHOLDER INFORMATION

This Prospectus Supplement No. 1 is being filed in connection with certain changes to the selling securityholder information as set forth in the Prospectus dated November 25, 2016 (as supplemented to date, the “**Prospectus**”) resulting from the transfer by IRA FBO Ana B Parker (the “**IRA**”) of its Series E Warrants to several parties including Tungsten III, LLC (“**Tungsten**”), an entity controlled by Michael A. Parker, Ms. Parker’s husband. Consequently, the selling securityholders table (the “**Selling Securityholders Table**”) appearing under the heading “SELLING SECURITYHOLDERS” in the Prospectus is hereby amended and supplemented by (i) deleting the information for the IRA in the Selling Securityholders Table; and (ii) adding the following information for Tungsten to the Selling Securityholders Table:

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Name of Selling Securityholder	Number of Shares of Common Stock Issued and Issuable (1)	Number of Shares of Common Stock Beneficially Owned Prior to this Offering (2)	Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus (3)	Number of Shares of Common Stock Beneficially Owned After This Offering (4)	Percentage of Shares of Common Stock Beneficially Owned After This Offering (5)
Tungsten III, LLC. (19)	11,083,334	5,000,000	1,583,334	5,000,000	3.59%

- (19) Michael A. Parker is the sole manager of Tungsten III, LLC (“**Tungsten**”). As sole manager, Mr. Parker has sole voting and dispositive power over the securities held by Tungsten, which may be deemed to have beneficial ownership of 5,000,000 shares of Common Stock originally issued to Mr. Parker, an investor in the 2015 Private Placement Financing and an affiliate of Tungsten, and assigned to Tungsten in March 2016, none of which are being registered in the 2016 S-3 Registration Statement of which this prospectus forms a part. The information presented for Tungsten in Column 3 of this table excludes (i) 1,583,334 shares of Common Stock issuable upon exercise of Series E Warrants originally issued to an IRA established for the benefit of Mr. Parker’s wife, Ana B. Parker (IRA FBO Ana B Parker or the “**IRA**”) in connection with the 2016 Private Placement Financing and subsequently assigned to Tungsten in December 2016 because of the ownership limitations set forth in the Series E Warrants as described in footnote (2); (ii) 4,500,000 shares of Common Stock issuable upon exercise of Series D Warrants originally issued to Mr. Parker in connection with the 2015 Private Placement Financing and assigned to Tungsten in March 2016 because of the ownership limitations set forth in the Series D Warrants as described in footnote (2), none of which are being registered in the 2016 S-3 Registration Statement of which this prospectus forms a part; (iii) 2,164,837 shares of Common Stock acquired by Mr. Parker in transactions unrelated to the 2016 Private Placement Financing, none of which are being registered in the 2016 S-3 Registration Statement of which this prospectus forms a part; (iv) 524,607 shares of Common Stock acquired by Ms. Parker in transactions unrelated to the 2016 Private Placement Financing, none of which are being registered in the 2016 S-3 Registration Statement of which this prospectus forms a part; and (v) 2,222,223 shares of Common Stock originally issued to the IRA in the 2016 Private Placement Financing and subsequently transferred to Ms. Parker, none of which are being registered in the 2016 S-3 Registration Statement of which this prospectus forms a part.