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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
WASHINGTON, D.C. 20549

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Amendment No. 1

to

**FORM S-3**  
**REGISTRATION STATEMENT**  
*UNDER*  
*THE SECURITIES ACT OF 1933*

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**ARCH THERAPEUTICS, INC.**  
(Exact name of registrant as specified in its charter)

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Nevada  
(State or other jurisdiction of  
incorporation or organization)

46-0524102  
(I.R.S. Employer  
Identification Number)

235 Walnut St., Suite 6  
Framingham, MA 01702  
(617) 431-2313

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

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Terrence W. Norchi  
President and Chief Executive Officer  
235 Walnut St., Suite 6  
Framingham, MA 01702  
(617) 431-2313

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

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*Copies of all communications, including communications sent to the agent for service, to:*

Michael J. Lerner, Esq.  
John D. Hogoboom  
Lowenstein Sandler LLP  
1251 Avenue of the Americas  
New York, New York 10020  
Tel: (973) 597-6394

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**Approximate date of commencement of proposed sale to the public:** From time to time after this Registration Statement becomes effective.

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If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check  the following box:

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box:

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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:  Accelerated filer:

Non-accelerated filer:  (Do not check if a smaller reporting company) Smaller reporting company:

**The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Commission acting pursuant to said section 8(a), may determine.**

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**The information in this prospectus is not complete and may be changed. A registration statement relating to these securities has been filed with the Securities and Exchange Commission. These securities may not be sold until the registration statement is effective. This prospectus is not an offer to sell these securities and does not solicit an offer to buy these securities in any state or other jurisdiction where the offer or sale is not permitted.**

**Subject to completion, preliminary prospectus dated October 17, 2016**

**PROSPECTUS**



**\$50,000,000**

**Common Stock  
Warrants  
Debt Securities  
Subscription Rights  
Units**

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We may offer and sell an indeterminate number of shares of our common stock, warrants, debt securities and subscription rights from time to time under this prospectus. We may offer these securities separately or as units, which may include combinations of the securities. We will describe in a prospectus supplement the securities we are offering and selling, as well as the specific terms of the securities.

We may offer these securities in amounts, at prices and on terms determined at the time of offering. We may sell the securities directly to you, through agents we select, or through underwriters and dealers we select. If we use agents, underwriters or dealers to sell the securities, we will name them and describe their compensation in a prospectus supplement.

Our common stock is currently quoted on the QB tier of the OTC Marketplace (“**OTCQB**”) under the symbol “**ARTH**”. On October 14, 2016, the closing price of our common stock was \$0.62 per share. We have no warrants, debt securities, subscription rights or units listed on any securities exchange or market.

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**Investing in our securities involves certain risks. See “RISK FACTORS” beginning on Page 7 of this prospectus and in the applicable prospectus supplement for certain risks you should consider. You should read the entire prospectus carefully before you make your investment decision.**

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**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 is \_\_\_\_\_, 2016**

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## TABLE OF CONTENTS

	<u>PAGE</u>
<u>ABOUT THIS PROSPECTUS</u>	6
<u>FORWARD-LOOKING STATEMENTS</u>	6
<u>PROSPECTUS SUMMARY</u>	7
<u>RISK FACTORS</u>	7
<u>USE OF PROCEEDS</u>	7
<u>DESCRIPTION OF CAPITAL STOCK</u>	8
<u>DESCRIPTION OF WARRANTS</u>	10
<u>DESCRIPTION OF DEBT SECURITIES</u>	11
<u>DESCRIPTION OF SUBSCRIPTION RIGHTS</u>	16
<u>DESCRIPTION OF UNITS</u>	16
<u>FORMS OF SECURITIES</u>	17
<u>PLAN OF DISTRIBUTION</u>	19
<u>LEGAL MATTERS</u>	20
<u>EXPERTS</u>	20
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	20

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## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission (the “SEC”) utilizing a “shelf” registration process. Under this shelf process, we may sell any combination of the securities described in this prospectus in one or more offerings. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with additional information described under the heading “**WHERE YOU CAN FIND MORE INFORMATION.**”

We have not authorized anyone to provide any information other than that contained or incorporated by reference in this prospectus or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information contained in or incorporated by reference in this prospectus or any prospectus supplement is accurate as of any date other than their respective dates.

## FORWARD-LOOKING STATEMENTS

This prospectus, including the documents incorporated by reference herein, contains forward-looking statements. In some cases, you can identify these statements by forward-looking words such as “may,” “might,” “will,” “should,” “expects,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “potential” or “continue,” the negative or plural of these words and other comparable terminology. These forward-looking statements, which are subject to risks, uncertainties and assumptions about us, may include projections of our future financial performance, our anticipated growth strategies and anticipated trends in our business. These statements are only predictions based on our current expectations and projections about future events. There are important factors that could cause our actual results, level of activity, performance or achievements to differ materially from the results, level of activity, performance or achievements expressed or implied by the forward-looking statements, including those factors discussed under the caption entitled “Risk Factors” in our Annual Report on Form 10-K for the year ended September 30, 2015.

Although we believe the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, level of activity, performance or achievements. Moreover, neither we nor any other person assumes responsibility for the accuracy and completeness of any of these forward-looking statements. We are under no duty to update any of these forward-looking statements after the date of this prospectus to conform our prior statements to actual results or revised expectations.

## PROSPECTUS SUMMARY

### Our Company

We are a biotechnology company in the development stage with limited operations to date. We aim to develop products that make surgery and interventional care faster and safer by using a novel approach that stops bleeding (referenced as “**hemostatic**” or “**hemostasis**”), controls leaking (referenced as “**sealant**” or “**sealing**”), and provides other advantages during surgery and trauma care. Our core technology is based on a self-assembling peptide that creates a physical, mechanical barrier, which could be applied to seal organs or wounds that are leaking blood and other fluids. We believe our technology could support an innovative platform of potential products in the field of stasis and barrier applications. Our lead product candidate, the AC5 Surgical Hemostatic Device™ (which we sometimes refer to as “**AC5™**”), is designed to achieve hemostasis in minimally invasive and open surgical procedures, and we hope to develop other hemostatic or sealant product candidates in the future based on our self-assembling peptide technology platform. Our plan and business model is to develop products that apply that core technology to use with human bodily fluids and connective tissues.

AC5 is designed to be a biocompatible synthetic peptide comprising naturally occurring amino acids. When applied to a wound, AC5 intercalates into the interstices of the connective tissue where it self-assembles into a physical, mechanical structure that provides a barrier to leaking substances, such as blood. AC5 is designed for direct application as a liquid, which we believe will make it user-friendly and able to conform to irregular wound geometry. Additionally, AC5 is not sticky or glue-like, which we believe will enhance its utility in the setting of minimally invasive and laparoscopic surgeries. Further, in certain settings, AC5 lends itself to a concept that we call Crystal Clear Surgery™ because the transparency and physical properties of AC5 enable a surgeon to operate through it in order to maintain a clearer field of vision and prophylactically stop or lessen bleeding as it starts.

### Corporate Information

We were incorporated under the laws of the State of Nevada on September 16, 2009 as Almah, Inc. On May 10, 2013, we entered into an Agreement and Plan of Merger (the “**Merger Agreement**”) with Arch Biosurgery, Inc., a private Massachusetts corporation (“**ABS**”) and Arch Acquisition Corporation, our wholly owned subsidiary formed for the purpose of the transaction, pursuant to which Arch Acquisition Corporation merged with and into ABS and ABS thereby became our wholly owned subsidiary (the “**Merger**”). The Merger closed on June 26, 2013. In contemplation of the Merger, we changed our name from Almah, Inc. to Arch Therapeutics, Inc. Our principal executive offices are located at 235 Walnut St., Suite 6, Framingham, Massachusetts 01702. The telephone number of our principal executive offices is (617) 431-2313. Our website address is <http://www.archtherapeutics.com>. We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this document.

### RISK FACTORS

You should carefully consider all of the information in this prospectus and, in particular, you should evaluate the specific risk factors incorporated by reference herein and included or incorporated by reference in any applicable prospectus supplement.

### USE OF PROCEEDS

Unless otherwise indicated in a prospectus supplement, the net proceeds from the sale of the securities will be used for working capital and general corporate purposes, which may include acquisitions, retirement of debt and other business opportunities. While we do not have agreements or commitments for any specific acquisitions or investments at this time, we may be required to use a portion of any such net proceeds to satisfy our indebtedness to Massachusetts Life Sciences Center (“**MLSC**”). Pursuant to the Life Sciences Accelerator Funding Agreement that we entered into MLSC on September 30, 2013 and amended on September 28, 2016 (as amended, the “**MLSC Loan Agreement**”), we are required to amortize the principal and accrued interest under the MLSC Loan Agreement by making 13 monthly payments of approximately \$106,022 each to MLSC commencing on October 3, 2016. In addition, the remaining principal and accrued interest under the MLSC Loan Agreement will become immediately due and payable on the earlier of (i) the completion of a sale of substantially all of our assets, a change-of-control transaction or one or more financing transactions in which we receive net proceeds of \$5,000,000 at any time after October 3, 2016; and (ii) the occurrence of an event of default by us under the MLSC Loan Agreement.

When particular securities are offered, the prospectus supplement relating to that offering will set forth our intended use of the net proceeds received from the sale of those securities we sell. Pending the application of the net proceeds for these purposes, we expect to invest the proceeds in short-term, interest-bearing instruments or other investment-grade securities.

## DESCRIPTION OF CAPITAL STOCK

### General

Effective May 24, 2013, we amended our Articles of Incorporation to increase our authorized Common Stock from 75,000,000 shares to 300,000,000 shares. Other than our Common Stock, we have no other class or series of authorized capital stock.

As of October 14, 2016, we had 136,457,075 shares of common stock issued and outstanding.

The additional shares of our authorized stock available for issuance may be issued at times and under circumstances so as to have a dilutive effect on earnings per share and on the equity ownership of the holders of our common stock. The ability of our Board of Directors (the “**Board**”) to issue additional shares of stock could enhance the Board’s ability to negotiate on behalf of the stockholders in a takeover situation but could also be used by the Board to make a change-in-control more difficult, thereby denying stockholders the potential to sell their shares at a premium and entrenching current management. The following description is a summary of the material provisions of our capital stock. You should refer to our articles of incorporation, as amended, and bylaws, both of which are on file with the SEC as exhibits to previous SEC filings, for additional information. The summary below is qualified by provisions of applicable law.

### common stock

The holders of our common stock, par value \$0.001 per share, are entitled to one vote per share on all matters submitted to a vote of our stockholders, including the election of directors. Our articles of incorporation do not provide for cumulative voting in the election of directors, and our amended and restated bylaws provide that directors are elected by a plurality vote of the votes cast and entitled to vote on the election of directors at any meeting for the election of directors at which a quorum is present. Matters other than the election of directors to be voted on by stockholders are generally approved if, at a duly convened stockholder meeting, the number of votes cast in favor of the action exceeds the number of votes cast in opposition to the action, unless a different vote for the action is required by applicable law, our articles of incorporation or our amended and restated bylaws. Applicable Nevada law requires any amendment to our articles of incorporation to be approved by stockholders holding shares entitling them to exercise at least a majority of the voting power of the Company. The holders of our common stock will be entitled to cash dividends as may be declared, if any, by the Board from funds available. Upon liquidation, dissolution or winding up of our Company, the holders of our common stock (the “**common stockholders**”) will be entitled to receive pro rata all assets available for distribution to the holders. All rights of our common stockholders described in this paragraph could be subject to any preferential voting, liquidation or other rights of any series of preferred stock that we may authorize and issue in the future. Our common stock is presently traded on the QB tier of the OTC Marketplace under the trading symbol “**ARTH**”.

### Anti-Takeover Provisions of Nevada State Law

Some features of the Nevada Revised Statutes (“**NRS**”), which are further described below, may have the effect of deterring third parties from making takeover bids for control of us or may be used to hinder or delay a takeover bid. This would decrease the chance that our common stockholders would realize a premium over market price for their shares of common stock as a result of a takeover bid.

### *Acquisition of Controlling Interest*

The NRS contain provisions governing acquisition of a controlling interest of a Nevada corporation. These provisions provide generally that any person or entity that acquires a certain percentage of the outstanding voting shares of a Nevada corporation may be denied voting rights with respect to the acquired shares, unless certain criteria are satisfied. Our amended and restated bylaws provide that these provisions will not apply to us or to any existing or future common stockholder or common stockholders.

### *Combination with Interested Stockholder*

The NRS contain provisions governing combinations of a Nevada corporation that has 200 or more stockholders of record with an “interested stockholder.” These provisions only apply to a Nevada corporation that, at the time the potential acquirer became an interested stockholder, has a class or series of voting shares listed on a national securities exchange, or has a class or series of voting shares traded in an “organized market” and satisfies certain specified public float and stockholder levels. As we do not now meet those requirements, we do not believe that these provisions are currently applicable to us. However, to the extent they become applicable to us in the future, they may have the effect of delaying or making it more difficult to affect a change in control of the Company in the future.

A corporation affected by these provisions may not engage in a combination within two years after the interested stockholder acquires his, her or its shares unless the combination or purchase is approved by the board of directors before the interested stockholder acquired such shares. Generally, if approval is not obtained, then after the expiration of the two-year period, the business combination may be consummated with the approval of the board of directors before the person became an interested stockholder or a majority of the voting power held by disinterested stockholders, or if the consideration to be received per share by disinterested stockholders is at least equal to the highest of:

- the highest price per share paid by the interested stockholder within the three years immediately preceding the date of the announcement of the combination or within three years immediately before, or in, the transaction in which he, she or it became an interested stockholder, whichever is higher;
- the market value per share on the date of announcement of the combination or the date the person became an interested stockholder, whichever is higher; or
- if higher for the holders of preferred stock, the highest liquidation value of the preferred stock, if any.

Generally, these provisions define an interested stockholder as a person who is the beneficial owner, directly or indirectly of 10% or more of the voting power of the outstanding voting shares of a corporation, and define combination to include any merger or consolidation with an interested stockholder, or any sale, lease, exchange, mortgage, pledge, transfer or other disposition, in one transaction or a series of transactions with an interested stockholder of assets of the corporation:

- having an aggregate market value equal to 5% or more of the aggregate market value of the assets of the corporation;
- having an aggregate market value equal to 5% or more of the aggregate market value of all outstanding shares of the corporation; or
- representing 10% or more of the earning power or net income of the corporation.

### **Warrants Issued and Outstanding**

As of October 14, 2016, we had issued and outstanding:

- Series A Warrants to purchase 1,125,000 shares of common stock issuable thereunder at an exercise price of \$0.20 per share;

- Series D Warrants to purchase 10,951,663 shares of common stock issuable thereunder at an exercise price of \$0.25 per share;
- Series E Warrants to purchase 6,333,323 shares of common stock issuable thereunder at an exercise price of \$0.4380 per share; and
- A warrant issued to the Massachusetts Life Sciences Center (“MLSC”) in connection with the our loan agreement with MLSC to purchase up to 145,985 shares of common stock issuable thereunder at an exercise price of \$0.274 per share.

<b>Transfer Agent and Registrar</b>
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The transfer agent for our common stock is Empire Stock Transfer. Our transfer agent’s address is 1859 Whitney Mesa Drive, Henderson, Nevada 89014.

### DESCRIPTION OF WARRANTS

We may issue warrants to purchase our debt or equity securities or securities of third parties or other rights, including rights to receive payment in cash or securities based on the value, rate or price of one or more specified commodities, currencies, securities or indices, or any combination of the foregoing. Warrants may be issued independently or together with any other securities and may be attached to, or separate from, such securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and a bank, trust company or other financial institution, as warrant agent, or we may issue warrants directly to investors. A description of the terms and material provisions of any warrants we may issue will be set forth in the applicable prospectus supplement.

The applicable prospectus supplement will describe the following terms of any warrants in respect of which this prospectus is being delivered:

- the title of such warrants;
- the aggregate number of such warrants;
- the price or prices at which such warrants will be issued;
- the currency or currencies in which the price of such warrants will be payable;
- the securities or other rights, including rights to receive payment in cash or securities based on the value, rate or price of one or more specified commodities, currencies, securities or indices, or any combination of the foregoing, purchasable upon exercise of such warrants;
- the price at which and the currency or currencies in which the securities or other rights purchasable upon exercise of such warrants may be purchased;
- the date on which the right to exercise such warrants shall commence and the date on which such right shall expire;
- if applicable, the minimum or maximum amount of such warrants which may be exercised at any one time;
- provision for changes to or adjustments in the exercise price of such warrants, if any;
- if applicable, the designation and terms of the securities with which such warrants are issued and the number of such warrants issued with each such security;
- if applicable, the date on and after which such warrants and the related securities will be separately transferable;
- information with respect to book-entry procedures, if any;
- if applicable, a discussion of any material United States Federal income tax considerations; and
- any other terms of such warrants, including terms, procedures and limitations relating to the exchange and exercise of such warrants.

## DESCRIPTION OF DEBT SECURITIES

This prospectus describes certain general terms and provisions of debt securities that we may offer. The debt securities may be issued pursuant to, in the case of senior debt securities, a senior indenture, and in the case of subordinated debt securities, a subordinated indenture, in each case in the forms filed as exhibits to this registration statement, which we refer to as the “**indentures**.” The indentures will be entered into between us and a trustee to be named prior to the issuance of any debt securities, which we refer to as the “**trustee**.” The indentures will not limit the amount of debt securities that can be issued thereunder and will provide that the debt securities may be issued from time to time in one or more series pursuant to the terms of one or more securities resolutions or supplemental indentures creating such series.

We have summarized below the material provisions of the indentures and the debt securities or indicated which material provisions will be described in the related prospectus supplement for any offering of debt securities. These descriptions are only summaries, and you should refer to the relevant indenture for the particular offering of debt securities itself which will describe completely the terms and definitions of the offered debt securities and contain additional information about the debt securities.

All references in this section, “**DESCRIPTION OF DEBT SECURITIES**,” to “**Arch**,” the “**Company**,” “**we**,” “**us**,” “**our**,” the “**registrant**” or similar words are solely to Arch Therapeutics, Inc., and not to its subsidiaries.

### Terms

When we offer to sell a particular series of debt securities, we will describe the specific terms of the securities in a prospectus supplement. The prospectus supplement will set forth the following terms, as applicable, of the debt securities offered thereby:

- the designation, aggregate principal amount, currency or composite currency and denominations;
- the price at which such debt securities will be issued and, if an index formula or other method is used, the method for determining amounts of principal or interest;
- the maturity date and other dates, if any, on which principal will be payable;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- whether the debt securities rank as senior debt, senior subordinated debt, subordinated debt or any combination thereof, and the terms of any subordination;
- the interest rate (which may be fixed or variable), if any;
- the date or dates from which interest will accrue and on which interest will be payable, and the record dates for the payment of interest;
- the manner of paying principal and interest;
- the place or places where principal and interest will be payable;
- the terms of any mandatory or optional redemption by us or any third party including any sinking fund;
- the terms of any conversion or exchange;
- the terms of any redemption at the option of holders or put by the holders;
- any tax indemnity provisions;
- if the debt securities provide that payments of principal or interest may be made in a currency other than that in which debt securities are denominated, the manner for determining such payments;
- the portion of principal payable upon acceleration of a Discounted Debt Security (as defined below);
- whether and upon what terms debt securities may be defeased;

- any events of default or covenants in addition to or in lieu of those set forth in the indentures;
- provisions for electronic issuance of debt securities or for debt securities in uncertificated form; and
- any additional provisions or other special terms not inconsistent with the provisions of the indentures, including any terms that may be required or advisable under United States or other applicable laws or regulations, or advisable in connection with the marketing of the debt securities.

Debt securities of any series may be issued as registered debt securities or uncertificated debt securities, in such denominations as specified in the terms of the series.

Securities may be issued under the indentures as Discounted Debt Securities to be offered and sold at a substantial discount from the principal amount thereof. Special United States federal income tax and other considerations applicable thereto will be described in the prospectus supplement relating to such Discounted Debt Securities. “**Discounted Debt Security**” means a security where the amount of principal due upon acceleration is less than the stated principal amount.

We are not obligated to issue all debt securities of one series at the same time and, unless otherwise provided in the prospectus supplement, we may reopen a series, without the consent of the holders of the debt securities of that series, for the issuance of additional debt securities of that series. Additional debt securities of a particular series will have the same terms and conditions as outstanding debt securities of such series, except for the date of original issuance and the offering price, and will be consolidated with, and form a single series with, such outstanding debt securities.

### **Ranking**

The senior debt securities will rank equally with all of our other senior and unsubordinated debt. Our secured debt, if any, will be effectively senior to the senior debt securities to the extent of the value of the assets securing such debt. The subordinated debt securities will be subordinate and junior in right of payment to all of our present and future senior indebtedness to the extent and in the manner described in the prospectus supplement and as set forth in the board resolution, officer’s certificate or supplemental indenture relating to such offering.

We have only a stockholder’s claim on the assets of our subsidiaries. This stockholder’s claim is junior to the claims that creditors of our subsidiaries have against our subsidiaries. Holders of our debt securities will be our creditors and not creditors of any of our subsidiaries. As a result, all the existing and future liabilities of our subsidiaries, including any claims of their creditors, will effectively be senior to the debt securities with respect to the assets of our subsidiaries. In addition, to the extent that we issue any secured debt, the debt securities will be effectively subordinated to such secured debt to the extent of the value of the assets securing such secured debt.

The debt securities will be obligations exclusively of Arch Therapeutics, Inc. To the extent that our ability to service our debt, including the debt securities, may be dependent upon the earnings of our subsidiaries, our ability to do so will be dependent on the ability of our subsidiaries to distribute those earnings to us as dividends, loans or other payments.

### **Certain Covenants**

Any covenants that may apply to a particular series of debt securities will be described in the prospectus supplement relating thereto.

## Successor Obligor

The indentures provide that, unless otherwise specified in the securities resolution or supplemental indenture establishing a series of debt securities, we shall not consolidate with or merge into, or transfer all or substantially all of our assets to, any person in any transaction in which we are not the survivor, unless:

- the person is organized under the laws of the United States or a jurisdiction within the United States;
- the person assumes by supplemental indenture all of our obligations under the relevant indenture, the debt securities and any coupons;
- immediately after the transaction no Default (as defined below) exists; and
- we deliver to the trustee an officers' certificate and opinion of counsel stating that the transaction complies with the foregoing requirements.

In such event, the successor will be substituted for us, and thereafter all of our obligations under the relevant indenture, the debt securities and any coupons will terminate.

## Exchange of Debt Securities

Registered debt securities may be exchanged for an equal aggregate principal amount of registered debt securities of the same series and date of maturity in such authorized denominations as may be requested upon surrender of the registered debt securities at an agency of the Company maintained for such purpose and upon fulfillment of all other requirements of such agent.

## Default and Remedies

Unless the securities resolution or supplemental indenture establishing the series otherwise provides (in which event the prospectus supplement will so state), an “**Event of Default**” with respect to a series of debt securities will occur if:

- (1) we default in any payment of interest on any debt securities of such series when the same becomes due and payable and the default continues for a period of 30 days;
- (2) we default in the payment of the principal and premium, if any, of any debt securities of such series when the same becomes due and payable at maturity or upon redemption, acceleration or otherwise and such default shall continue for five or more days;
- (3) we default in the performance of any of our other agreements applicable to the series and the default continues for 30 days after the notice specified below;
- (4) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law (as defined below) that:
  - (A) is for relief against us in an involuntary case,
  - (B) appoints a Custodian (as defined below) for us or for all or substantially all of our property, or
  - (C) orders the liquidation of us, and the order or decree remains unstayed and in effect for 90 days;
- (5) we pursuant to or within the meaning of any Bankruptcy Law:
  - (A) commence a voluntary case,
  - (B) consent to the entry of an order for relief against us in an involuntary case,
  - (C) consent to the appointment of a Custodian for us or for all or substantially all of our property, or
  - (D) make a general assignment for the benefit of our creditors; or
- (6) there occurs any other Event of Default provided for in such series.

The term “**Bankruptcy Law**” means Title 11 of the United States Code or any similar Federal or State law for the relief of debtors. The term “**Custodian**” means any receiver, trustee, assignee, liquidator or a similar official under any Bankruptcy Law.

“**Default**” means any event which is, or after notice or passage of time would be, an Event of Default. A Default under subparagraph (3) above is not an Event of Default until the trustee or the holders of at least 25% in principal amount of the series notify us of the Default and we do not cure the Default within the time specified after receipt of the notice.

The trustee may require indemnity satisfactory to it before it enforces the indentures or the debt securities of the series. Subject to certain limitations, holders of a majority in principal amount of the debt securities of the series may direct the trustee in its exercise of any trust or power with respect to such series. Except in the case of Default in payment on a series, the trustee may withhold from securityholders of such series notice of any continuing Default if the trustee determines that withholding notice is in the interest of such Securityholders. We are required to furnish the trustee annually a brief certificate as to our compliance with all conditions and covenants under the indentures.

The indentures do not have cross-default provisions. Thus, a default by us on any other debt, including any other series of debt securities, would not constitute an Event of Default.

#### **Amendments and Waivers**

The indentures and the debt securities or any coupons of the series may be amended, and any Default may be waived as follows:

Unless the securities resolution or supplemental indenture otherwise provides (in which event the applicable prospectus supplement will so state), the debt securities and the indentures may be amended with the consent of the holders of a majority in principal amount of the debt securities of all series affected voting as one class. Unless the securities resolution or supplemental indenture otherwise provides (in which event the applicable prospectus supplement will so state), a Default other than a Default in payment on a particular series may be waived with the consent of the holders of a majority in principal amount of the debt securities of the series. However, without the consent of each securityholder affected, no amendment or waiver may:

- change the fixed maturity of or the time for payment of interest on any debt security;
- reduce the principal, premium or interest payable with respect to any debt security;
- change the place of payment of a debt security or the currency in which the principal or interest on a debt security is payable;
- change the provisions for calculating any redemption or repurchase price with respect to any debt security;
- reduce the amount of debt securities whose holders must consent to an amendment or waiver;
- make any change that materially adversely affects the right to convert any debt security;
- waive any Default in payment of principal of or interest on a debt security; or
- adversely affect any holder’s rights with respect to redemption or repurchase of a debt security.

Without the consent of any securityholder, the indentures or the debt securities may be amended to:

- provide for assumption of our obligations to securityholders in the event of a merger or consolidation requiring such assumption;
- to cure any ambiguity, omission, defect or inconsistency;

- to conform the terms of the debt securities to the description thereof in the prospectus and prospectus supplement offering such debt securities;
- to create a series and establish its terms;
- to provide for assumption of our obligations to securityholders in the event of a merger or consolidation requiring such assumption;
- to make any change that does not adversely affect the rights of any securityholder;
- to add to our covenants; or
- to make any other change to the indentures so long as no debt securities are outstanding.

#### **Conversion Rights**

Any securities resolution or supplemental indenture establishing a series of debt securities may provide that the debt securities of such series will be convertible at the option of the holders thereof into or for our common stock or other equity or debt instruments. The securities resolution or supplemental indenture may establish, among other things, (1) the number or amount of shares of common stock or other equity or debt instruments for which \$1,000 aggregate principal amount of the debt securities of the series is convertible, as may be adjusted pursuant to the terms of the relevant indenture and the securities resolution; and (2) provisions for adjustments to the conversion rate and limitations upon exercise of the conversion right. The indentures provide that we will not be required to make an adjustment in the conversion rate unless the adjustment would require a cumulative change of at least 1% in the conversion rate. However, we will carry forward any adjustments that are less than 1% of the conversion rate and take them into account in any subsequent adjustment of the conversion rate.

#### **Legal Defeasance and Covenant Defeasance**

Debt securities of a series may be defeased in accordance with their terms and, unless the securities resolution or supplemental indenture establishing the terms of the series otherwise provides, as set forth below. We at any time may terminate as to a series all of our obligations (except for certain obligations, including obligations with respect to the defeasance trust and obligations to register the transfer or exchange of a debt security, to replace destroyed, lost or stolen debt securities and coupons and to maintain paying agencies in respect of the debt securities) with respect to the debt securities of the series and any related coupons and the relevant indenture, which we refer to as legal defeasance. We at any time may terminate as to a series our obligations with respect to any restrictive covenants which may be applicable to a particular series, which we refer to as covenant defeasance.

We may exercise our legal defeasance option notwithstanding our prior exercise of our covenant defeasance option. If we exercise our legal defeasance option, a series may not be accelerated because of an Event of Default. If we exercise our covenant defeasance option, a series may not be accelerated by reference to any covenant which may be applicable to a series.

To exercise either defeasance option as to a series, we must (1) irrevocably deposit in trust with the trustee (or another trustee) money or U.S. Government Obligations (as defined below), deliver a certificate from a nationally recognized firm of independent accountants expressing their opinion that the payments of principal and interest when due on the deposited U.S. Government Obligations, without reinvestment, plus any deposited money without investment will provide cash at such times and in such amounts as will be sufficient to pay the principal and interest when due on all debt securities of such series to maturity or redemption, as the case may be; and (2) comply with certain other conditions. In particular, we must obtain an opinion of tax counsel that the defeasance will not result in recognition of any gain or loss to holders for federal income tax purposes.

“**U.S. Government Obligations**” means direct obligations of the United States or any agency or instrumentality of the United States, the payment of which is unconditionally guaranteed by the United States, which, in either case, have the full faith and credit of the United States pledged for payment and which are not callable at the issuer’s option, or certificates representing an ownership interest in such obligations.

## **Regarding the Trustee**

Unless otherwise indicated in a prospectus supplement, the trustee will also act as depository of funds, transfer agent, paying agent and conversion agent, as applicable, with respect to the debt securities. We may remove the trustee as the trustee under a given indenture with or without cause if we so notify the trustee three months in advance and if no Default occurs during the three-month period. The indenture trustee may also provide additional unrelated services to us as a depository of funds, registrar, trustee and similar services.

## **Governing Law**

The indentures and the debt securities will be governed by New York law, except to the extent that the Trust Indenture Act of 1939 is applicable.

### **DESCRIPTION OF SUBSCRIPTION RIGHTS**

We may issue subscription rights to purchase our common stock or debt securities. These subscription rights may be offered independently or together with any other security offered hereby and may or may not be transferable by the stockholder receiving the subscription rights in such offering. In connection with any offering of subscription rights, we may enter into a standby arrangement with one or more underwriters or other purchasers pursuant to which the underwriters or other purchasers may be required to purchase any securities remaining unsubscribed for after such offering.

The prospectus supplement relating to any subscription rights we offer, if any, will, to the extent applicable, include specific terms relating to the offering, including some or all of the following:

- the price, if any, for the subscription rights;
- the exercise price payable for our common stock or debt securities upon the exercise of the subscription rights;
- the number of subscription rights to be issued to each stockholder;
- the number and terms of our common stock or debt securities which may be purchased per each subscription right;
- the extent to which the subscription rights are transferable;
- any other terms of the subscription rights, including the terms, procedures and limitations relating to the exchange and exercise of the subscription rights;
- the date on which the right to exercise the subscription rights shall commence, and the date on which the subscription rights shall expire;
- the extent to which the subscription rights may include an over-subscription privilege with respect to unsubscribed securities or an over-allotment privilege to the extent the securities are fully subscribed; and
- if applicable, the material terms of any standby underwriting or purchase arrangement which may be entered into by Arch in connection with the offering of subscription rights.

### **DESCRIPTION OF UNITS**

We may issue units comprised of one or more of the other classes of securities described in this prospectus in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The units may be issued under unit agreements to be entered into between us and a unit agent, as detailed in the prospectus supplement relating to the units being offered. The prospectus supplement will describe:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units;
- the terms of the unit agreement governing the units;
- United States federal income tax considerations relevant to the units; and
- whether the units will be issued in fully registered global form.

## FORMS OF SECURITIES

Each debt security and, to the extent applicable, warrant, subscription right and unit, will be represented either by a certificate issued in definitive form to a particular investor or by one or more global securities representing the entire issuance of securities. Certificated securities in definitive form and global securities will be issued in registered form. Definitive securities name you or your nominee as the owner of the security, and in order to transfer or exchange these securities or to receive payments other than interest or other interim payments, you or your nominee must physically deliver the securities to the trustee, registrar, paying agent or other agent, as applicable. Global securities name a depository or its nominee as the owner of the debt securities or warrants represented by these global securities. The depository maintains a computerized system that will reflect each investor's beneficial ownership of the securities through an account maintained by the investor with its broker/dealer, bank, trust company or other representative, as we explain more fully below.

### Global Securities

*Registered Global Securities.* We may issue the registered debt securities and, to the extent applicable, warrants, subscription rights and units in the form of one or more fully registered global securities that will be deposited with a depository or its nominee identified in the applicable prospectus supplement and registered in the name of that depository or nominee. In those cases, one or more registered global securities will be issued in a denomination or aggregate denominations equal to the portion of the aggregate principal or face amount of the securities to be represented by registered global securities. Unless and until it is exchanged in whole for securities in definitive registered form, a registered global security may not be transferred except as a whole by and among the depository for the registered global security, the nominees of the depository or any successors of the depository or those nominees.

If not described below, any specific terms of the depository arrangement with respect to any securities to be represented by a registered global security will be described in the prospectus supplement relating to those securities. We anticipate that the following provisions will apply to all depository arrangements.

Ownership of beneficial interests in a registered global security will be limited to persons, called participants, that have accounts with the depository or persons that may hold interests through participants. Upon the issuance of a registered global security, the depository will credit, on its book-entry registration and transfer system, the participants' accounts with the respective principal or face amounts of the securities beneficially owned by the participants. Any dealers, underwriters or agents participating in the distribution of the securities will designate the accounts to be credited. Ownership of beneficial interests in a registered global security will be shown on, and the transfer of ownership interests will be effected only through, records maintained by the depository, with respect to interests of participants, and on the records of participants, with respect to interests of persons holding through participants. The laws of some states may require that some purchasers of securities take physical delivery of these securities in definitive form. These laws may impair your ability to own, transfer or pledge beneficial interests in registered global securities.

So long as the depository, or its nominee, is the registered owner of a registered global security, that depository or its nominee, as the case may be, will be considered the sole owner or holder of the securities represented by the registered global security for all purposes under the applicable indenture or warrant agreement. Except as described below, owners of beneficial interests in a registered global security will not be entitled to have the securities represented by the registered global security registered in their names, will not receive or be entitled to receive physical delivery of the securities in definitive form and will not be considered the owners or holders of the securities under the applicable indenture or warrant agreement. Accordingly, each person owning a beneficial interest in a registered global security must rely on the procedures of the depository for that registered global security and, if that person is not a participant, on the procedures of the participant through which the person owns its interest, to exercise any rights of a holder under the applicable indenture or warrant agreement. We understand that under existing industry practices, if we request any action of holders or if an owner of a beneficial interest in a registered global security desires to give or take any action that a holder is entitled to give or take under the applicable indenture or warrant agreement, the depository for the registered global security would authorize the participants holding the relevant beneficial interests to give or take that action, and the participants would authorize beneficial owners owning through them to give or take that action or would otherwise act upon the instructions of beneficial owners holding through them.

Principal, premium, if any, and interest payments on debt securities and any payments to holders with respect to warrants represented by a registered global security registered in the name of a depository or its nominee will be made to the depository or its nominee, as the case may be, as the registered owner of the registered global security. None of Arch, the trustees, the warrant agents or any other agent of Arch, agent of the trustees or agent of the warrant agents will have any responsibility or liability for any aspect of the records relating to payments made on account of beneficial ownership interests in the registered global security or for maintaining, supervising or reviewing any records relating to those beneficial ownership interests.

We expect that the depository for any of the securities represented by a registered global security, upon receipt of any payment of principal, premium, interest or other distribution of underlying securities or other property to holders on that registered global security, will immediately credit participants' accounts in amounts proportionate to their respective beneficial interests in that registered global security as shown on the records of the depository. We also expect that payments by participants to owners of beneficial interests in a registered global security held through participants will be governed by standing customer instructions and customary practices, as is now the case with the securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of those participants.

If the depository for any of these securities represented by a registered global security is at any time unwilling or unable to continue as depository or ceases to be a clearing agency registered under the Securities Exchange Act of 1934, as amended (the "**Exchange Act**"), and a successor depository registered as a clearing agency under the Exchange Act is not appointed by us within 90 days, we will issue securities in definitive form in exchange for the registered global security that had been held by the depository. Any securities issued in definitive form in exchange for a registered global security will be registered in the name or names that the depository gives to the relevant trustee or warrant agent or other relevant agent of ours or theirs. It is expected that the depository's instructions will be based upon directions received by the depository from participants with respect to ownership of beneficial interests in the registered global security that had been held by the depository.

## PLAN OF DISTRIBUTION

We may sell the securities being offered hereby in the following manner or any manner specified in a prospectus supplement:

- directly to purchasers;
- through agents;
- through underwriters; and
- through dealers.

The prospectus supplement will set forth the terms of the offering of such securities, including:

- the name or names of any underwriters, dealers or agents and the amounts of securities underwritten or purchased by each of them;
- the initial public offering price of the securities and the proceeds to us and any discounts, commissions or concessions allowed or reallocated or paid to dealers; and
- any securities exchanges on which the securities may be listed.

We may directly solicit offers to purchase securities, or agents may be designated to solicit such offers. We will, in the prospectus supplement relating to such offering, name any agent that could be viewed as an underwriter under the Securities Act, and describe any commissions that we must pay. Any such agent will be acting on a best efforts basis for the period of its appointment or, if indicated in the applicable prospectus supplement, on a firm commitment basis. Agents, dealers and underwriters may be customers of, engage in transactions with, or perform services for us in the ordinary course of business.

If any underwriters or agents are utilized in the sale of the securities in respect of which this prospectus is delivered, we will enter into an underwriting agreement or other agreement with them at the time of sale to them, and we will set forth in the prospectus supplement relating to such offering the names of the underwriters or agents and the terms of the related agreement with them.

If a dealer is utilized in the sale of the securities in respect of which the prospectus is delivered, we will sell such securities to the dealer, as principal. The dealer may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale.

Remarketing firms, agents, underwriters and dealers may be entitled under agreements which they may enter into with us to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, and may be customers of, engage in transactions with or perform services for us in the ordinary course of business.

In order to facilitate the offering of the securities, any underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the securities or any other securities the prices of which may be used to determine payments on such securities. Specifically, any underwriters may overallocate in connection with the offering, creating a short position for their own accounts. In addition, to cover overallocations or to stabilize the price of the securities or of any such other securities, the underwriters may bid for, and purchase, the securities or any such other securities in the open market. Any of these activities may stabilize or maintain the market price of the securities above independent market levels. Any such underwriters are not required to engage in these activities and may end any of these activities at any time.

Any underwriter, agent or dealer utilized in the initial offering of any securities issued hereunder will not confirm sales to accounts over which it exercises discretionary authority without the prior specific written approval of its customer.

## LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, the validity of the securities offered hereby will be passed upon for us by McDonald Carano Wilson LLP, Reno, Nevada. If the validity of the securities offered hereby in connection with offerings made pursuant to this prospectus are passed upon by counsel for the underwriters, dealers or agents, if any, such counsel will be named in the prospectus supplement relating to such offering.

## EXPERTS

Moody, Famiglietti & Andronico, LLP, an independent registered public accounting firm, has audited our consolidated financial statements for the years ended September 30, 2015 and 2014, as stated in its report appearing herein, and such audited consolidated financial statements have been so included in reliance upon the report of such firm given upon its authority as experts in accounting and auditing.

## WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read or obtain a copy of these reports at the SEC's public reference room at 100 F Street, N.E., Washington, D.C. 20549, on official business days during the hours of 10:00 am to 3:00 pm. You may obtain information on the operation of the public reference room and its copy charges by calling the SEC at 1-800-SEC-0330. The SEC maintains a website, at <http://www.sec.gov>, that contains registration statements, reports, proxy information statements and other information regarding registrants that file electronically with the SEC, including us. Our website address is <http://www.archtherapeutics.com>. We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this document.

The SEC allows us to "incorporate by reference" information that we file with it into this prospectus, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus. The information incorporated by reference is considered to be a part of this prospectus, and information that we file later with the SEC will automatically update and supersede information contained in this prospectus and any accompanying prospectus supplement.

We incorporate by reference the documents listed below that we have previously filed with the SEC, each of which has Exchange Act File No. 000-54986 unless otherwise noted:

- our Annual Report on Form 10-K for the fiscal year ended September 30, 2015, filed with the SEC on December 11, 2015;
- our Quarterly Reports on Form 10-Q for the quarters ended December 31, 2015, March 30, 2016, and June 30, 2016, which were filed with the SEC on February 12, 2016, April 28, 2016 and July 28, 2016, respectively;
- our Current Reports on Form 8-K filed with the SEC on December 01, 2015, December 03, 2015, December 16, 2015, March 07, 2016, March 09, 2016, March 14, 2016, March 22, 2016, April 05, 2016, April 11, 2016, April 25, 2016, May 06, 2016, May 10, 2016, May 16, 2016, June 02, 2016, June 06, 2016, August 15, 2016 and September 29, 2016; and
- the description of our common stock as set forth under the caption "Description of Securities" in our Registration Statement on Form S-1/A (File No. 333-178883), as amended and filed with the SEC on February 24, 2012, including any amendments thereto or reports filed for the purposes of updating this description (including our Current Report on Form 8-K filed with the SEC on June 26, 2013 (File No. 333-178883)).

All reports and other documents that we file with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus but before the termination of the offering of the securities hereunder will also be considered to be incorporated by reference into this prospectus from the date of the filing of these reports and documents, and will supersede the information herein; *provided, however*, that all reports, exhibits and other information that we “furnish” to the SEC will not be considered incorporated by reference into this prospectus. Any statement contained in a document incorporated by reference in this prospectus or any prospectus supplement shall be deemed to be modified or superseded to the extent that a statement contained herein, therein or in any other subsequently filed document that also is incorporated by reference herein or therein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus or any prospectus supplement.

We will provide you without charge, upon your oral or written request, with a copy of any or all reports, proxy statements and other documents we file with the SEC, as well as any or all of the documents incorporated by reference in this prospectus or the registration statement (other than exhibits to such documents unless such exhibits are specifically incorporated by reference into such documents). Requests for such copies should be directed to:

Arch Therapeutics, Inc.  
235 Walnut St., Suite 6  
Framingham, MA 01702  
(617) 431-2313

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**\$50,000,000**

**Common Stock  
Warrants  
Debt Securities  
Subscription Rights  
Units**

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**PROSPECTUS**

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**, 2016**

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**PART II**  
**INFORMATION NOT REQUIRED IN PROSPECTUS**

**Item 14. Other Expenses of Issuance and Distribution**

The following table sets forth the costs and expenses payable in connection with the sale and distribution of the securities being registered. All amounts are estimates except the SEC registration fee (which has previously been paid).

<b>EXPENSE</b>	<b>AMOUNT</b>
SEC Registration Fees	\$
Legal Fees and Expenses	*
Accounting Fees and Expenses	*
Trustee Fees	*
Miscellaneous Fees and Expenses	*
<b>Total</b>	<b>\$</b>

\* *Estimated fees and expenses are not presently known. The foregoing sets forth the general categories of fees and expenses (other than underwriting discounts and commissions) that we anticipate we will incur in connection with the offering of securities under this registration statement. An estimate of the aggregate fees and expenses in connection with the issuance and distribution of the securities being offered will be included in the applicable prospectus supplement.*

**Item 15. Indemnification of Directors and Officers**

We have not entered into separate indemnification agreements with our directors and officers. Our amended and restated bylaws provide that we shall indemnify any director or officer to the fullest extent authorized by the laws of the State of Nevada. Our amended and restated bylaws further provide that we shall pay the expenses incurred by an officer or director (acting in his capacity as such) in defending any action, suit or proceeding in advance of the final disposition of such action, suit or proceeding, subject to the delivery to us by or on behalf of such director or officer of an undertaking to repay the amount of such expenses if it shall ultimately be determined that he or she is not entitled to be indemnified by us as authorized in our bylaws or otherwise.

The Nevada Revised Statutes provide us with the power to indemnify any of our directors, officers, employees and agents as follows:

- a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, except an action by or in the right of the corporation, by reason of the fact that he is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses, including attorneys' fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by him in connection with the action, suit or proceeding if he or she acted in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful;
- a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that he or she is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against expenses, including amounts paid in settlement and attorneys' fees actually and reasonably incurred by him or her in connection with the defense or settlement of the action or suit if he or she acted in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the corporation. Indemnification may not be made for any claim, issue or matter as to which such a person has been adjudged by a court of competent jurisdiction, after exhaustion of all appeals therefrom, to be liable to the corporation or for amounts paid in settlement to the corporation, unless and only to the extent that the court in which the action or suit was brought or other court of competent jurisdiction determines upon application that in view of all the circumstances of the case, the person is fairly and reasonably entitled to indemnity for such expenses as the court deems proper; and

- to the extent that a director, officer, employee or agent of a corporation has been successful on the merits or otherwise in defense of any action, suit or proceeding, or in defense of any claim, issue or matter therein, the corporation must indemnify him or her against expenses, including attorneys' fees, actually and reasonably incurred by him or her in connection with the defense.

The Nevada Revised Statutes provide that a corporation may make any discretionary indemnification only as authorized in the specific case upon a determination that indemnification of the director, officer, employee or agent is proper in the circumstances. The determination must be made:

- by the stockholders of the corporation;
- by the board of directors of the corporation by majority vote of a quorum consisting of directors who were not parties to the action, suit or proceeding;
- if a majority vote of a quorum consisting of directors who were not parties to the action, suit or proceeding so orders, by independent legal counsel in a written opinion;
- if a quorum consisting of directors who were not parties to the action, suit or proceeding cannot be obtained, by independent legal counsel in a written opinion; or
- by court order.

The Nevada Revised Statutes further provide that a corporation may purchase and maintain insurance or make other financial arrangements on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise for any liability asserted against him and liability and expenses incurred by him in his capacity as a director, officer, employee or agent, or arising out of his status as such, whether or not the corporation has the authority to indemnify him against such liability and expenses. We have secured a directors' and officers' liability insurance policy. We expect that we will continue to maintain such a policy.

#### **Item 16. Exhibits**

The Index to Exhibits listing the exhibits required by Item 601 of Regulation S-K is located on the page immediately following the signature page to this registration statement.

#### **Item 17. 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:
  - (a) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;
  - (b) 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 the total dollar value of 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) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

- (c) 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)(a), (1)(b) and (1)(c) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

- (2) That, for the purpose of determining any liability under the Securities Act of 1933, 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.
- (4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:
  - (a) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
  - (b) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. *Provided, however,* that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.
- (5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the registrant undertakes that in a primary offering of securities of the registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:
  - (a) Any preliminary prospectus or prospectus of the registrant relating to the offering required to be filed pursuant to Rule 424;
  - (b) Any free writing prospectus relating to the offering prepared by or on behalf of the registrant or used or referred to by the registrant;

- (c) The portion of any other free writing prospectus relating to the offering containing material information about registrant or its securities provided by or on behalf of the registrant; and
  - (d) Any other communication that is an offer in the offering made by an registrant to the purchaser.
- (6) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) 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.
- (7) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the forgoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the 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 Act and will be governed by the final adjudication of such issue.
- (8) The undersigned hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Commission under Section 305(b)(2) of the Act.

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Framingham, State of Massachusetts, on October 17, 2016.

Arch Therapeutics, Inc.

By: /s/ Terrence W. Norchi, MD  
Terrence W. Norchi, MD  
*President and Chief Executive Officer*

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Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

<b>SIGNATURE</b>	<b>TITLE</b>	<b>DATE</b>
<u>/s/ Terrence W. Norchi, MD</u> Terrence W. Norchi, MD	President, Chief Executive Officer and Director ( <i>Principal Executive Officer</i> )	October 17, 2016
<u>/s/ Richard E. Davis</u> Richard E. Davis	Chief Financial Officer ( <i>Principal Financial and Accounting Officer</i> )	October 17, 2016
<u>/s/ Avtar Dhillon, MD*</u> Avtar Dhillon, MD	Director	October 17, 2016
<u>/s/ James R. Sulat*</u> James R. Sulat	Director	October 17, 2016

\* By: /s/ Terrence W. Norchi, MD  
Terrence W. Norchi, MD  
*Attorney-in-Fact*

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## INDEX TO EXHIBITS

Exhibit No.	Exhibit Title	Filed Herewith	Incorporated By Reference			
			Form	Exhibit No.	File No.	Filing Date
1.1	Form of Underwriting Agreement.*					
2.1	Agreement and Plan of Merger dated May 10, 2013, by and among Almah, Inc., Arch Acquisition Corporation, and Arch Therapeutics, Inc.		8-K	2.1	333-178883	5/13/2013
2.2	Amendment No. 1 to Agreement and Plan of Merger, dated May 23, 2013, by and among Almah, Inc., Arch Acquisition Corporation, and Arch Therapeutics, Inc..		10-Q	10.11	000-54986	8/14/2013
4.1	Restated Articles of Incorporation of Arch Therapeutics, Inc.		10-K	3.1	000-54986	12/12/2014
4.2	Amended and Restated Bylaws of Arch Therapeutics, Inc.		8-K	3.1	333-178883	6/24/2013
4.3	Form of Senior Debt Indenture and Arch Therapeutics, Inc. and the Trustee.		S-3	4.3	333-213878	9/30/2016
4.4	Form of Subordinated Debt Indenture and Arch Therapeutics, Inc. and the Trustee.		S-3	4.4	333-213878	9/30/2016
4.5	Form of Senior Note (included in Exhibit 4.3)	X				
4.6	Form of Subordinated Note (included in Exhibit 4.4)	X				
4.7	Form of Warrant Agreement*					
4.8	Form of Warrant Certificate*					
4.9	Form of Unit Agreement.*					
4.10	Form of Subscription Agreement.*					
5.1	Opinion of McDonald Carano LLP	X				
5.2	Opinion of Lowenstein Sandler LLP	X				
23.1	Consent of Independent Registered Public Accounting Firm	X				
23.2	Consent of McDonald Carano LLP (included in Exhibit 5.1)	X				
23.3	Consent of Lowenstein Sandler LLP (included in Exhibit 5.2)	X				
24.1	Power of Attorney		S-3	24.1	333-213878	9/30/2016
25.1	Statement of Eligibility on Form T-1 of the Trustee for the Senior Debt Indenture **					
25.2	Statement of Eligibility on Form T-1 of the Trustee for the Subordinated Debt Indenture **					

\* To be filed, if applicable, as an exhibit to a post-effective amendment to this registration statement or as an exhibit to a report filed under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, and incorporated herein by reference.

\*\* To be filed pursuant to Section 305 (b)(2) of the Trust Indenture Act of 1939, as amended.



## [McDonald Carano Wilson LLP Letterhead]

October 17, 2016  
Arch Therapeutics, Inc.  
235 Walnut St., Suite 6  
Framingham, MA 01702

**Re: Shelf Registration Statement on Form S-3**

Ladies and Gentlemen:

This opinion is being furnished to you in connection with the Registration Statement on Form S-3 (File No. 333-213878), as amended (as amended, the "**Registration Statement**"), including the prospectus that is part of the Registration Statement (the "**Prospectus**"), filed by Arch Therapeutics, Inc., a Nevada corporation (the "**Company**"), with the Securities and Exchange Commission (the "**Commission**") on October 17, 2016 under the Securities Act of 1933, as amended (the "**Securities Act**").

The Prospectus provides that it will be supplemented in the future by one or more prospectus supplements (each, a "**Prospectus Supplement**"). The Prospectus, as supplemented by the various Prospectus Supplements, will provide for the issuance and sale by the Company from time to time of up to \$50,000,000 aggregate offering price of (i) shares of the Company's common stock, par value \$0.001 per share (the "**Common Stock**"); (ii) the Company's senior debt securities and subordinated debt securities (collectively, the "**Debt Securities**"), which may be issued pursuant to a senior debt indenture, between the Company and the trustee to be named therein (the "**Senior Debt Trustee**") (the "**Senior Debt Indenture**") and a subordinated debt indenture between the Company and the trustee to be named therein (the "**Subordinated Debt Trustee**" and, together with the Senior Debt Trustee, the "**Trustees**") (the "**Subordinated Debt Indenture**," and together with the Senior Debt Indenture, the "**Indentures**"); (iii) warrants to purchase Common Stock or other securities, property or assets (the "**Warrants**"); (iv) subscription rights to purchase Common Stock or Debt Securities (the "**Subscription Rights**"); or (v) units composed of any of the foregoing (the "**Units**"). The Common Stock, Debt Securities, Warrants, Subscription Rights and Units are collectively referred to herein as the "**Securities**." The Warrants may be issued pursuant to a warrant agreement (the "**Warrant Agreement**") between the Company and either a bank, trust company or other financial institution, as warrant agent or, each of the initial holders of such Warrants. Any Debt Securities may be exchangeable and/or convertible into shares of Common Stock or other securities. The Units may be issued pursuant to a Unit Agreement (the "**Unit Agreement**") between the Company and either a bank, trust company or other financial institution, as unit agent or, each of the initial holders of such Units. The Securities are being registered for offering and sale from time to time pursuant to Rule 415 under the Securities Act.

In rendering our opinions set forth below, we have reviewed the Registration Statement and the exhibits thereto. We have also reviewed such corporate documents and records of the Company, such certificates of public officials and officers of the Company and such other matters as we have deemed necessary or appropriate for purposes of this opinion. In our examination, we have assumed: (i) the authenticity of original documents and the genuineness of all signatures; (ii) the conformity to the originals of all documents submitted to us as copies; (iii) the truth, accuracy and completeness of the information, representations and warranties contained in the instruments, documents, certificates and records we have reviewed; and (iv) the legal capacity for all purposes relevant hereto of all natural persons and, with respect to all parties to agreements or instruments relevant hereto other than the Company, that such parties had the requisite power and authority (corporate or otherwise) to execute, deliver and perform such agreements or instruments, that such agreements or instruments have been duly authorized by all requisite action (corporate or otherwise), executed and delivered by such parties and that such agreements or instruments are the valid, binding and enforceable obligations of such parties. As to any facts material to the opinions expressed herein that were not independently established or verified, we have relied upon oral or written statements and representations of officers and other representatives of the Company.

Based on the foregoing, and subject to the assumptions, limitations and qualifications set forth herein, we are of the opinion that:

1. With respect to shares of Common Stock, when (a) the issuance and the terms of the sale of the shares of Common Stock have been duly authorized by the Board of Directors of the Company in conformity with the Company's articles of incorporation and bylaws; (b) such shares have been issued and delivered against payment of the purchase price therefor in an amount in excess of the par value thereof, in accordance with the applicable definitive purchase, underwriting or similar agreement, and as contemplated by the Registration Statement, the Prospectus and the related Prospectus Supplement(s); and (c) to the extent such shares of Common Stock are to be issued upon the conversion, exchange or exercise of any Debt Securities or Warrants, when such shares have been duly issued and delivered as contemplated by the terms of the Indenture and any supplemental indenture relating to such Debt Securities or the Warrant Agreement relating to such Warrants, respectively, such shares of Common Stock will be validly issued, fully paid and nonassessable.

2. With respect to Debt Securities, when (a) the issuance and the terms of the sale of the Debt Securities have been duly authorized by the Board of Directors of the Company; (b) the terms of the Debt Securities and of their issuance and sale have been duly established so as not to violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company or any of its property; (c) the Indentures and any supplemental indenture to be entered into in connection with the issuance of any Debt Securities have been duly authorized, executed and delivered by the Trustees and the Company; (d) the specific terms of a particular series of Debt Securities have been duly authorized and established in accordance with the applicable Indenture; and (e) such Debt Securities have been duly authorized, executed, authenticated, issued and delivered in accordance with such Indenture and the applicable definitive purchase, underwriting or similar agreement, and as contemplated by the Registration Statement, the Prospectus and the related Prospectus Supplement(s), the Debt Securities will constitute valid and binding obligations of the Company.

3. With respect to Warrants, when (a) the issuance and the terms of the sale of the Warrants have been duly authorized by the Board of Directors of the Company; (b) the terms of the Warrants and of their issuance and sale have been duly established so as not to violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company or any of its property; (c) the Warrants and the applicable Warrant Agreement relating to the Warrants, if any, have been duly executed and countersigned and the Warrants have been issued and sold in accordance with the applicable definitive purchase, underwriting or similar agreement, as contemplated by the Registration Statement, the Prospectus and the related Prospectus Supplement(s); and (d) the Company has received the applicable consideration for the Warrants in accordance with the applicable definitive purchase, underwriting or similar agreement, and as contemplated by as contemplated by the Registration Statement, the Prospectus and the related Prospectus Supplement(s), the Warrants will constitute valid and binding obligations of the Company.

4. With respect to the Subscription Rights, when both: (a) the issuance and the terms of the sale of the Subscription Rights have been duly authorized by the Board of Directors of the Company; and (b) the terms of the Subscription Rights and of their issuance and sale have been duly established so as not to violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company or any of its property; and (c) the Subscription Rights Agreement or the agreements relating to the Subscription Rights have been duly authorized and validly executed and delivered by the Company, then the Subscription Rights will be valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

5. With respect to Units, when (a) the issuance and the terms of the sale of the Units have been duly authorized by the Board of Directors of the Company; (b) the terms of the Units and of their issuance and sale have been duly established so as not to violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company or any of its property; (c) the Unit Agreement and the Units have been duly executed and countersigned and the Units have been issued and sold in accordance with the applicable Unit Agreement, as contemplated by the Registration Statement, the Prospectus and the related Prospectus Supplement(s); and (d) the Company has received the applicable consideration for the Units in accordance with the Unit Agreement and as contemplated by the Registration Statement, the Prospectus and the related Prospectus Supplement(s), the Units will constitute valid and binding obligations of the Company.

In rendering the opinions set forth above, we have assumed that (i) the Registration Statement (and any applicable post-effective amendment thereto) will have become effective under the Securities Act, a Prospectus Supplement will have been prepared and filed with the Commission describing the Securities offered thereby and such Securities will have been issued and sold in accordance with the terms of such Prospectus Supplement and in compliance with all applicable laws; (ii) a definitive purchase, underwriting or similar agreement with respect to such Securities (if applicable) will have been duly authorized, executed and delivered by the Company and the other parties thereto; (iii) the Securities will be duly authorized by all necessary corporate action by the Company and any agreement pursuant to which such Securities may be issued will be duly authorized, executed and delivered by the Company and the other parties thereto; (iv) the Company is and will remain duly organized, validly existing and in good standing under applicable state law; and (v) the Company has reserved a sufficient number of shares of its duly authorized, but unissued, Common Stock as is necessary to provide for the issuance of the shares of Common Stock pursuant to the Registration Statement.

The opinions set forth above are subject to the following exceptions, limitations and qualifications: (i) the effect of bankruptcy, insolvency, reorganization, fraudulent conveyance, moratorium or other similar laws now or hereafter in effect relating to or affecting the rights and remedies of creditors; (ii) the effect of general principles of equity, including without limitation, concepts of materiality, reasonableness, good faith and fair dealing and the possible unavailability of specific performance or injunctive relief, regardless of whether enforcement is considered in a proceeding in equity or at law, and the discretion of the court before which any proceeding therefor may be brought; and (iii) the unenforceability under certain circumstances under law or court decisions of provisions providing for the indemnification of, or contribution to, a party with respect to liability where such indemnification or contribution is contrary to public policy. We express no opinion concerning the enforceability of any waiver of rights or defenses with respect to stay, extension or usury laws. Our opinion expressed herein is also subject to the qualification that no term or provision shall be included in any Indenture, Warrant Agreement, Unit Agreement or any other agreement or instrument pursuant to which any of the Securities are to be issued that would affect the validity of such opinion.

Our opinion is limited to the Nevada Revised Statutes. We express no opinion as to the effect of the law of any other jurisdiction. Our opinion is rendered as of the date hereof, and we assume no obligation to advise you of changes in law or fact (or the effect thereof on the opinions expressed herein) that hereafter may come to our attention.

We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statement and to the references to our firm therein and in the Prospectus and in any Prospectus Supplement under the caption "Legal Matters." In giving our consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,  
/s/ McDonald Carano Wilson LLP  
MCDONALD CARANO WILSON LLP

## [Lowenstein Sandler LLP Letterhead]

October 17, 2016  
Arch Therapeutics, Inc.  
235 Walnut St., Suite 6  
Framingham, MA 01702

**Re: Shelf Registration Statement on Form S-3**

Ladies and Gentlemen:

This opinion is being furnished to you in connection with the Registration Statement on Form S-3 (File No. 333-213878), as amended (as amended, the "**Registration Statement**"), including the prospectus that is part of the Registration Statement (the "**Prospectus**"), filed by Arch Therapeutics, Inc., a Nevada corporation (the "**Company**"), with the Securities and Exchange Commission (the "**Commission**") on October 17, 2016 under the Securities Act of 1933, as amended (the "**Securities Act**").

The Prospectus provides that it will be supplemented in the future by one or more prospectus supplements (each, a "**Prospectus Supplement**"). The Prospectus, as supplemented by the various Prospectus Supplements, will provide for the issuance and sale by the Company from time to time of up to \$50,000,000 aggregate offering price of (i) shares of the Company's common stock, par value \$0.001 per share (the "**Common Stock**"); (ii) the Company's senior debt securities and subordinated debt securities (collectively, the "**Debt Securities**"), which may be issued pursuant to a senior debt indenture, between the Company and the trustee to be named therein (the "**Senior Debt Trustee**") (the "**Senior Debt Indenture**") and a subordinated debt indenture between the Company and the trustee to be named therein (the "**Subordinated Debt Trustee**" and, together with the Senior Debt Trustee, the "**Trustees**") (the "**Subordinated Debt Indenture**," and together with the Senior Debt Indenture, the "**Indentures**"); (iii) warrants to purchase Common Stock or other securities, property or assets (the "**Warrants**"); (iv) subscription rights to purchase Common Stock or Debt Securities (the "**Subscription Rights**"); or (v) units composed of any of the foregoing (the "**Units**"). The Common Stock, Debt Securities, Warrants, Subscription Rights and Units are collectively referred to herein as the "**Securities**." The Warrants may be issued pursuant to a warrant agreement (the "**Warrant Agreement**") between the Company and either a bank, trust company or other financial institution, as warrant agent or, each of the initial holders of such Warrants. Any Debt Securities may be exchangeable and/or convertible into shares of Common Stock or other securities. The Units may be issued pursuant to a Unit Agreement (the "**Unit Agreement**") between the Company and either a bank, trust company or other financial institution, as unit agent or, each of the initial holders of such Units. The Securities are being registered for offering and sale from time to time pursuant to Rule 415 under the Securities Act.

In rendering our opinions set forth below, we have reviewed the Registration Statement and the exhibits thereto. We have also reviewed such corporate documents and records of the Company, such certificates of public officials and officers of the Company and such other matters as we have deemed necessary or appropriate for purposes of this opinion. In our examination, we have assumed: (i) the authenticity of original documents and the genuineness of all signatures; (ii) the conformity to the originals of all documents submitted to us as copies; (iii) the truth, accuracy and completeness of the information, representations and warranties contained in the instruments, documents, certificates and records we have reviewed; and (iv) the legal capacity for all purposes relevant hereto of all natural persons and, with respect to all parties to agreements or instruments relevant hereto other than the Company, that such parties had the requisite power and authority (corporate or otherwise) to execute, deliver and perform such agreements or instruments, that such agreements or instruments have been duly authorized by all requisite action (corporate or otherwise), executed and delivered by such parties and that such agreements or instruments are the valid, binding and enforceable obligations of such parties. As to any facts material to the opinions expressed herein that were not independently established or verified, we have relied upon oral or written statements and representations of officers and other representatives of the Company.

Based on the foregoing, and subject to the assumptions, limitations and qualifications set forth herein, we are of the opinion that:

1. With respect to Debt Securities, when (a) the issuance and the terms of the sale of the Debt Securities have been duly authorized by the Board of Directors of the Company; (b) the terms of the Debt Securities and of their issuance and sale have been duly established so as not to violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company or any of its property; (c) the Indentures and any supplemental indenture to be entered into in connection with the issuance of any Debt Securities have been duly authorized, executed and delivered by the Trustees and the Company; (d) the specific terms of a particular series of Debt Securities have been duly authorized and established in accordance with the applicable Indenture; and (e) such Debt Securities have been duly authorized, executed, authenticated, issued and delivered in accordance with such Indenture and the applicable definitive purchase, underwriting or similar agreement, and as contemplated by the Registration Statement, the Prospectus and the related Prospectus Supplement(s), the Debt Securities will constitute valid and binding obligations of the Company.

In rendering the opinions set forth above, we have assumed that (i) the Registration Statement (and any applicable post-effective amendment thereto) will have become effective under the Securities Act, a Prospectus Supplement will have been prepared and filed with the Commission describing the Securities offered thereby and such Securities will have been issued and sold in accordance with the terms of such Prospectus Supplement and in compliance with all applicable laws; (ii) a definitive purchase, underwriting or similar agreement with respect to such Securities (if applicable) will have been duly authorized, executed and delivered by the Company and the other parties thereto; (iii) the Securities will be duly authorized by all necessary corporate action by the Company and any agreement pursuant to which such Securities may be issued will be duly authorized, executed and delivered by the Company and the other parties thereto; (iv) the Company is and will remain duly organized, validly existing and in good standing under applicable state law; and (v) the Company has reserved a sufficient number of shares of its duly authorized, but unissued, Common Stock as is necessary to provide for the issuance of the shares of Common Stock pursuant to the Registration Statement.

The opinions set forth above are subject to the following exceptions, limitations and qualifications: (i) the effect of bankruptcy, insolvency, reorganization, fraudulent conveyance, moratorium or other similar laws now or hereafter in effect relating to or affecting the rights and remedies of creditors; (ii) the effect of general principles of equity, including without limitation, concepts of materiality, reasonableness, good faith and fair dealing and the possible unavailability of specific performance or injunctive relief, regardless of whether enforcement is considered in a proceeding in equity or at law, and the discretion of the court before which any proceeding therefor may be brought; and (iii) the unenforceability under certain circumstances under law or court decisions of provisions providing for the indemnification of, or contribution to, a party with respect to liability where such indemnification or contribution is contrary to public policy. We express no opinion concerning the enforceability of any waiver of rights or defenses with respect to stay, extension or usury laws. Our opinion expressed herein is also subject to the qualification that no term or provision shall be included in any Indenture, Warrant Agreement, Unit Agreement or any other agreement or instrument pursuant to which any of the Securities are to be issued that would affect the validity of such opinion.

Our opinion is limited to the laws of New York. We express no opinion as to the effect of the law of any other jurisdiction. Our opinion is rendered as of the date hereof, and we assume no obligation to advise you of changes in law or fact (or the effect thereof on the opinions expressed herein) that hereafter may come to our attention.

We hereby consent to the inclusion of this opinion as Exhibit 5.2 to the Registration Statement and to the references to our firm therein and in the Prospectus and in any Prospectus Supplement under the caption "Legal Matters." In giving our consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,  
/s/ Lowenstein Sandler LLP  
LOWENSTEIN SANDLER LLP

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

The Board of Directors  
Arch Therapeutics, Inc. and Subsidiary  
Framingham, MA 01702

We hereby consent to the incorporation by reference in the Amendment No. 1 to the Registration Statement on Form S-3 (File No. 333-213878) of Arch Therapeutics, Inc. and Subsidiary (collectively, the “**Company**”) of our report (which contains an explanatory paragraph relating to the Company’s ability to continue as a going concern as described in Notes 1 and 2 to the consolidated financial statements) dated December 11, 2015, relating to the consolidated financial statements of the Company appearing in the Annual Report on Form 10-K for the year ended September 30, 2015.

We also consent to the reference to us under the heading “Experts” in such Registration Statement.

/s/ Moody, Famiglietti & Andronico, LLP

Moody, Famiglietti & Andronico, LLP  
Tewksbury, Massachusetts  
October 17, 2016

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