

(Full title of the plan)

Terrence W. Norchi

Chief Executive Officer

Arch Therapeutics, Inc.

235 Walnut Street, Suite 6

Framingham, MA 01702

(Name and address of agent for service)

(617) 431-2313

(Telephone number, including area code, of agent for service)

Copy to:

John D. Hogoboom, Esq.

Lowenstein Sandler LLP

65 Livingston Avenue

Roseland, New Jersey 07068

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. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

(Do not check if a smaller reporting company)

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Share (2)	Proposed Maximum Aggregate Offering Price (2)	Amount of Registration Fee
Common Stock, par value \$0.001 per share	3,562,702	\$ 0.255	\$ 908,489	\$ 91.48

(1) Represents the number of additional shares of common stock, par value \$0.001 per share (“**Common Stock**”), of Arch Therapeutics, Inc. (the “**Company**” or “**Registrant**”), that may issued in connection with the Arch Therapeutics, Inc. 2013 Stock Incentive Plan (the “**Plan**”). In addition, pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the “**Securities Act**”), this Registration Statement also registers such additional shares of Common Stock as may be offered or issued under the Plan to prevent dilution from stock splits, stock dividends, or similar transactions.

(2) Estimated solely for purposes of calculating the amount of the registration fee, pursuant to Rules 457(c) and 457(h)(1) of the Securities Act, the proposed maximum offering price per share and the proposed maximum aggregate offering price for the shares have been determined on the basis of the average of the high and low prices of the registrant’s Common Stock reported on the OTCQB tier of the OTC Marketplace on October 5, 2015, which were \$0.251 and \$0.256, respectively.

STATEMENT REGARDING REGISTRATION OF ADDITIONAL SECURITIES PURSUANT TO GENERAL INSTRUCTION E

This registration statement on Form S-8 (this “**Registration Statement**”) is filed by Arch Therapeutics, Inc. (the “**Company**” or “**Registrant**”), to register an additional 3,562,702 shares of the Registrant’s common stock, par value \$0.001 per share (the “**Common Stock**”), which may be issued under the Arch Therapeutics, Inc. 2013 Stock Incentive Plan (the “**Plan**”).

Pursuant to Section 3(a) of the Plan, on the first business day of each fiscal year commencing with the fiscal year beginning October 1, 2013, the number of shares of Common Stock issuable under the Plan for all awards except for incentive stock option awards automatically increase by an amount equal to the lesser of (A) 3,000,000 shares, (B) four (4) percent of the number of shares outstanding on the last day of the immediately preceding fiscal year of the Company, or (C) such lesser number of shares as determined by the Company’s Board of Directors (the “**Annual Increase**”). Since the number of shares of Common Stock outstanding as of September 30, 2015, the last day of the immediately preceding fiscal year, was 107,542,205 shares, the Annual Increase for the fiscal year commencing October 1, 2015 is 3,000,000 shares of Common Stock.

In addition, pursuant to Section 3(b) of the Plan, shares of Common Stock covered by an award (or portion of an award) that were (i) forfeited, canceled or expires; or (ii) surrendered either in payment of the exercise or purchase price of an award, or in satisfaction of tax withholding obligations incident to the exercise of an award are not deemed to have been issued for purposes of determining the number of shares issuable under the Plan. While both stock awards that have been forfeited and any award (or portion thereof) that has been surrendered either in payment of the exercise or purchase price of an award, or in satisfaction of tax withholding obligations incident to the exercise of an award (collectively, “**Reissuable Shares**”) are not counted when determining the number of shares that have been issued under the Plan, such Reissuable Shares are deemed to have been issued for securities law purposes, and as of September 30, 2015, there were a total of 562,702 such shares. Consequently, besides the 3,000,000 shares for the Annual Increase, the Company is hereby registering an additional 562,702 shares (for a total of 3,562,702 shares) to ensure that the number of shares of Common Stock registered for sale under the Securities Act of 1933, as amended (the “**Securities Act**”) continues to match the number of shares potentially issuable under the Plan.

Pursuant to the Registration Statements on Form S-8 filed by the Registrant on January 23, 2014 (Registration No. 333-193516) and December 23, 2014 (Registration No. 333-201229), respectively (collectively, the “**Prior Registration Statements**”), the Registrant previously registered an aggregate of 13,114,256 shares of Common Stock. The additional shares of Common Stock being registered by this Registration Statement are of the same class as those securities registered on the Prior Registration Statements and represent an increase in the total shares of Common Stock that have been registered for sale under the Securities Act from 13,114,256 to 16,676,958. The contents of the Prior Registration Statements, together with all exhibits filed therewith or incorporated therein by reference to the extent not otherwise amended or superseded by the contents hereof or otherwise, are incorporated herein by reference in accordance with General Instruction E to Form S-8.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The documents containing the information specified in Part I of this Registration Statement have been or will be sent or given to participating employees as specified in Rule 428(b)(1) of the Securities Act in accordance with the rules and regulations of the United States Securities and Exchange Commission (the “SEC”). Such documents are not being filed with the SEC either as part of this Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424 of the Securities Act. These documents and the documents incorporated by reference into this Registration Statement pursuant to Item 3 of Part II of this Registration Statement, taken together, constitute a prospectus that meets the requirements of Section 10(a) of the Securities Act.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Certain Documents by Reference.

The following documents, filed with the SEC by the Company, are incorporated by reference into this Registration Statement:

(a) the Company's Annual Report on Form 10-K for the fiscal year ended September 30, 2014 filed with the SEC on December 12, 2014, pursuant to the Securities Exchange Act of 1934, as amended (the "Exchange Act");

(b) the Company's Quarterly Reports on Form 10-Q for the quarters ended December 31, 2014, March 30, 2015, and June 30, 2015, filed with the SEC on February 9, 2015, May 7, 2015, and August 7, 2015, respectively,

(c) the Company's Current Reports on Form 8-K, filed with the SEC on November 6, 2014, November 18, 2014, December 2, 2014, January 6, 2015, January 13, 2015, February 17, 2015, February 23, 2015, March 13, 2015, March 23, 2015, March 25, 2015, April 14, 2015, April 16, 2015, June 1, 2015, June 9, 2015, June 17, 2015, June 23, 2015, July 6, 2015, July 31, 2015, August 20, 2015, September 8, 2015, and September 9, 2015, respectively, in each case pursuant to the Exchange Act; and

(d) the description of the Company's Common Stock, which is contained in the Company's Registration Statement on Form 8-A, filed with the SEC on June 26, 2013, together with any amendment or report filed with the SEC for the purpose of updating this description.

In addition, all documents filed by the Company with the SEC pursuant to Sections 13(a), 13(c), 14, and 15(d) of the Exchange Act subsequent to the date of this Registration Statement and prior to the filing of a post-effective amendment to this Registration Statement which indicates that all the securities offered hereby have been sold or which deregisters all securities then remaining unsold shall be deemed to be incorporated by reference in this Registration Statement and to be a part hereof from the date of the filing of such documents with the SEC; *provided, however*, that documents or information deemed to have been furnished and not filed in accordance with the rules of the Commission shall not be deemed incorporated by reference in this Registration Statement, including any portion of any future annual or quarterly report to stockholders or document or current report furnished under Items 2.02 or 7.01 of Form 8-K that is not deemed filed under such provisions. Any statement contained in a document incorporated by reference herein shall be deemed to be modified or superseded for purposes hereof to the extent that a statement contained herein (or in any other subsequently filed document which also is incorporated by reference herein)

modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed to constitute a part hereof except as so modified or superseded.

Item 8. Exhibits.

The Exhibits to this Registration Statement are listed in the Index to Exhibits and are incorporated herein by reference.

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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 the requirements for filing on Form S-8 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 7, 2015.

Arch Therapeutics, Inc.

/s/ Terrence W. Norchi
Terrence W. Norchi
President and Chief Executive Officer

SIGNATURES AND POWER OF ATTORNEY

We, the undersigned officers and directors of Arch Therapeutics, Inc., hereby severally constitute and appoint Terrence W. Norchi our true and lawful attorney-in-fact with full power of substitution, to sign for us and in our names in the capacities indicated below the Registration Statement and any and all pre-effective and post-effective amendments to the Registration Statement and generally to do all such things in our name and behalf in our capacities as officers and directors to enable the Registrant to comply with the provisions of the Securities Act, and all requirements of the SEC, hereby ratifying and confirming our signatures as they may be signed by our said attorney-in-fact to said Registration Statement and any and all amendments thereto.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated:

Signature	Title	Date
/s/ Terrence W. Norchi Dr. Terrence W. Norchi	President, Chief Executive Officer, and Director (Principal Executive Officer)	October 7, 2015
/s/ Richard E. Davis Richard E. Davis	Chief Financial Officer (Principal Financial and Accounting Officer)	October 7, 2015
/s/ Avtar Dhillon Dr. Avtar Dhillon	Director	October 7, 2015

/s/ James R. Sulat
James R. Sulat

Director

October 7, 2015

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INDEX TO EXHIBITS

Exhibit No. Description of Exhibit

- 4.1 Restated Articles of Incorporation of Arch Therapeutics, Inc. (incorporated by reference to Exhibit 3.1 to the Annual Report on Form 10-K filed by the Company with the SEC on December 12, 2014)(File Number 000-54986)
- 4.2 Amended and Restated Bylaws of Arch Therapeutics, Inc. (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K filed by the Company with the SEC on June 24, 2013)(File Number 333-178883)
- 10.1 Arch Therapeutics, Inc. 2013 Stock Incentive Plan (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed by the Company with the SEC on June 24, 2013)(File Number 333-178883)
- 10.2 Form of Stock Option Award Agreement under Arch Therapeutics, Inc. 2013 Stock Incentive Plan (incorporated by reference to Exhibit 10.13 to the Quarterly Report on Form 10-Q filed by the Company with the SEC on August 14, 2013)(File Number 000-54986)
- 10.3 Form of Restricted Stock Unit Award Agreement under Arch Therapeutics, Inc. 2013 Stock Incentive Plan (incorporated by reference to Exhibit 10.14 to the Quarterly Report on Form 10-Q filed by the Company with the SEC on August 14, 2013)(File Number 000-54986)
- 10.4 Form of Restricted Stock Bonus Award Agreement under Arch Therapeutics, Inc. 2013 Stock Incentive Plan (incorporated by reference to Exhibit 10.15 to the Quarterly Report on Form 10-Q filed by the Company with the SEC on August 14, 2013)(File Number 000-54986)
- 5.1* Opinion of McDonald Carano Wilson LLP.
- 23.1* Consent of McDonald Carano Wilson LLP (included in Exhibit 5.1 hereto).
- 23.2* Consent of Moody, Famiglietti & Andronico, LLP.
- 24.1* Power of Attorney (included on the signature page of this Registration Statement).

* Filed herewith.