

Copies to:

Elton Satusky, Esq.
 Eric Hsu, Esq.
 Wilson Sonsini Goodrich & Rosati
 Professional Corporation
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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 (Do not check if a smaller reporting company) Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered ⁽¹⁾	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, \$0.001 par value per share, reserved for issuance pursuant to the 2014 Equity Incentive Plan	9,600,666 (2)	\$0.405 (3)	\$3,888,267.73	\$450.66
TOTAL:			\$3,888,267.73	\$450.66

Pursuant to Rule 416(a) of the Securities Act of 1933, as amended, this Registration Statement shall also cover any additional shares of the Registrant’s common stock that become issuable under the 2014 Equity Incentive Plan (the (1) “2014 Plan”) by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without receipt of consideration that increases the number of the Registrant’s outstanding shares of common stock.

- Represents automatic annual increase of 671,478 shares on January 1, 2017 (which annual increase is provided for in, the 2014 Plan) and an increase of 8,929,188 shares approved by the stockholders on March 6, 2017, to the number of shares of the Registrant's common stock reserved for issuance under the 2014 Plan. The Registrant
- (2) previously filed registration statements with respect to shares to be issued under the 2014 Plan, the 2014 Employee Stock Purchase Plan, the 2010 Stock Plan, and the 1999 Stock Plan. The contents of these prior registration statements filed on November 13, 2014 and April 1, 2016, are incorporated herein by reference.
- Estimated in accordance with Rules 457(c) and 457(h) under the Securities Act, solely for the purpose of
- (3) calculating the registration fee on the basis of \$0.405 per share, which represents the average of the high and low prices of the common stock as reported in The Nasdaq Capital Market on August 17, 2017.

PART I

INFORMATION REQUIRED IN THE PROSPECTUS

The information specified in Item 1 and Item 2 of Part I of Form S-8 is omitted from this Registration Statement on Form S-8 (the "Registration Statement") in accordance with the provisions of Rule 428 under the Securities Act of 1933, as amended (the "Securities Act"), and the introductory note to Part I of Form S-8. The documents containing the information specified in Part I of Form S-8 will be delivered to the participants in the equity benefit plans covered by this Registration Statement as specified by Rule 428(b)(1) under the Securities Act.

PART II

INFORMATION REQUIRED IN REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

Soleno Therapeutics, Inc. (the "Registrant") hereby incorporates by reference into this Registration Statement the following documents previously filed with the Securities and Exchange Commission (the "Commission"):

- (1) Annual Report on Form 10-K for the year ended December 31, 2016 (the "Annual Report"), as filed with the SEC on March 15, 2017 pursuant to Sections 13 or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act");
 - (2) Current Report on Form 8-K filed with the SEC on January 3, 2017;
 - (3) Current Report on Form 8-K filed with the SEC on January 9, 2017;
 - (4) Current Report on Form 8-K filed with the SEC on February 28, 2017;
 - (5) Current Report on Form 8-K filed with the SEC on March 8, 2017;
 - (6) Current Report on Form 8-K filed with the SEC on May 11, 2017;
 - (7) Quarterly Report on Form 10-Q for the quarter ended March 31, 2017, filed with the SEC on May 11, 2017;
 - (8) Current Report on Form 8-K filed with the SEC on May 11, 2017;
 - (9) Current Report on Form 8-K filed with the SEC on July 10, 2017;
 - (10) Current Report on Form 8-K filed with the SEC on July 24, 2017;
 - (11) Quarterly Report on Form 10-Q for the quarter ended June 30, 2017, filed with the SEC on August 11, 2017;
 - (12) All other reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act since the end of the fiscal year covered by the Annual Report; and
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The description of the Registrant's Common Stock contained in the Company's Registration Statement on Form (13)8-A filed with the Commission on August 8, 2014, pursuant to Section 12(b) of the Exchange Act, including any amendment or report filed for the purpose of updating such description.

All documents filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act on or after the date of this Registration Statement and prior to the filing of a post-effective amendment to this Registration Statement that indicates that all securities offered have been sold or that deregisters all securities then remaining unsold shall be deemed to be incorporated by reference in this Registration Statement and to be part hereof from the date of filing of such documents; 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 into this Registration Statement. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any subsequently filed document which also is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

The validity of the issuance of the shares of the Registrant's common stock offered hereby has been passed upon by Wilson Sonsini Goodrich & Rosati, P.C. ("WSGR"). An investment fund associated with WSGR beneficially owns less than 1% of the Registrant's common stock.

Item 6. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law authorizes a corporation's board of directors to grant, and authorizes a court to award, indemnity to officers, directors and other corporate agents.

As permitted by Section 102(b)(7) of the Delaware General Corporation Law, the Registrant's amended and restated certificate of incorporation includes provisions that eliminate the personal liability of its directors for monetary damages for breach of their fiduciary duty as directors, excluding liability for any breach of the duty of loyalty.

In addition, as permitted by Section 145 of the Delaware General Corporation Law, the amended and restated certificate of incorporation and amended and restated bylaws of the Registrant provide that:

The Registrant shall indemnify its directors and officers for serving the Registrant in those capacities or for serving other business enterprises at the Registrant's request, to the fullest extent permitted by Delaware law. Delaware law

- provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the Registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful.

- The Registrant may, in its discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law.

The Registrant is required to advance expenses, as incurred, to its directors and officers in connection with

- defending a proceeding, except that such director or officer shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification.

- The Registrant will not be obligated pursuant to the amended and restated bylaws to indemnify a person with respect to proceedings initiated by that person, except with respect to proceedings authorized by the Registrant's board of directors or brought to enforce a right to indemnification.

The rights conferred in the amended and restated certificate of incorporation and amended and restated bylaws are not exclusive, and the Registrant is authorized to enter into indemnification agreements with its directors, officers, employees and agents and to obtain insurance to indemnify such persons.

- The Registrant may not retroactively amend the bylaw provisions to reduce its indemnification obligations to directors, officers, employees and agents.

The Registrant has entered into separate indemnification agreements with each of its directors and officers that provide the maximum indemnity allowed to directors and executive officers by Section 145 of the Delaware General Corporation Law and also to provide for certain additional procedural protections. The Registrant also maintains directors and officers insurance to insure such persons against certain liabilities.

These indemnification provisions and the indemnification agreements entered into between the Registrant and its officers and directors may be sufficiently broad to permit indemnification of the Registrant's officers and directors for liabilities (including reimbursement of expenses incurred) arising under the Securities Act.

See also the undertakings set out in response to Item 9 herein.

Item 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

See Exhibit Index immediately following the Signature Pages.

Item 9. Undertakings.

A. 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:

- (i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

- (ii) 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 a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) 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 (A)(1)(i) and (A)(1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in this Registration Statement.

That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment (2) 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.

B. 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 undersigned Registrant undertakes that in a primary offering of securities of the undersigned 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 undersigned Registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned Registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned Registrant or used or referred to by the undersigned Registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned Registrant or its securities provided by or on behalf of the undersigned Registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned Registrant to the purchaser.

The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) 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.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities 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 Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of 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 Redwood City, California, on the 18 day of August 2017.

**SOLENO
THERAPEUTICS, INC.**

By: /s/ Anish Bhatnagar
Anish Bhatnagar
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Anish Bhatnagar and David D. O'Toole , and each of them, as his true and lawful attorney-in-fact and agent with full power of substitution, for him in any and all capacities, to sign any and all amendments to this registration statement on Form S-8 (including post-effective amendments), and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact, proxy and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully for all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact, proxy and agent, or his substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement on Form S-8 has been signed by the following persons in the capacities and on the dates indicated.

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Signature	Title	Date
/S/ ANISH BHATNAGAR Anish Bhatnagar	President, Chief Executive Officer and Director (Principal Executive Officer)	August 18, 2017
/S/ DAVID D. O'TOOLE David D. O'Toole	Chief Financial Officer (Principal Financing and Accounting Officer)	August 18, 2017
/S/ ERNEST MARIO Ernest Mario	Chairman	August 18, 2017
/S/ EDGAR G. ENGLEMAN Edgar G. Engleman	Director	August 18, 2017
/S/ STEINAR J. ENGELSEN Steinar J. Engelsen	Director	August 18, 2017
/S/ STEPHEN KIRNON Stephen Kirnon	Director	August 18, 2017
/S/ RAJEN DALAL Rajen Dalal	Director	August 18, 2017
/S/ WILLIAM G. HARRIS William G. Harris	Director	August 18, 2017
/S/ MAHENDRA SHAH Mehendra Shah	Director	August 18, 2017
/S/ JAMES GLASHEEN James Glasheen	Director	August 18, 2017
/S/ STUART COLLINSON Stuart Collinson	Director	August 18, 2017

INDEX TO EXHIBITS

Exhibit Number	Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
4.1	Form of the Registrant's common stock certificate	S-1/A	333-196635	4.1	08/05/2014
4.2	2014 Equity Incentive Plan	S-1/A	333-196635	10.4	08/07/2014
4.3	2014 Employee Stock Purchase Plan	S-1/A	333-196635	10.5	08/07/2014
5.1	Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation (contained in Exhibit 5.1 hereto)				
23.1	Consent of Marcum LLP, Independent Registered Public Accounting Firm (contained in Exhibit 23.1 hereto)				
23.2	Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (contained in Exhibit 5.1 hereto)				
24.1	Power of Attorney (contained on signature pages hereto)				