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

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

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**MEI PHARMA, INC.**  
(Exact name of registrant as specified in its charter)

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**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**51-0407811**  
(I.R.S. Employer  
Identification Number)

**11975 El Camino Real, Suite 101  
San Diego, California 92130  
(858) 792-6300**

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

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**Daniel P. Gold**  
**President and Chief Executive Officer**  
**11975 El Camino Real, Suite 101**  
**San Diego, California 92130**  
**(858) 792-6300**

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

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*Copies to:*

**Steven A. Navarro, Esq.**  
**Finnbarr D. Murphy, Esq.**  
**Morgan, Lewis & Bockius LLP**  
**101 Park Avenue**  
**New York, New York 10178**

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

If 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.  (Registration No. 333-173266)

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. (Check one):

Large accelerated filer

Accelerated filer

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

Smaller reporting company

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**CALCULATION OF REGISTRATION FEE**

Title of Each Class of Securities to be Registered <sup>(1)</sup>	Proposed Maximum Aggregate Offering Price <sup>(2)</sup>	Amount of Registration Fee <sup>(3)</sup>
Common stock, par value \$0.00000002 per share	\$5,475,000	\$705.18

- (1) This registration statement relates to the registration statement on Form S-3 (Registration No. 333-173266) of MEI Pharma, Inc. (the "Company") filed with the U.S. Securities and Exchange Commission on April 1, 2011 (the "Prior Registration Statement"), pursuant to which the Company registered up to \$50,000,000 of the Company's securities, including shares of the Company's common stock, preferred stock and warrants. This registration statement is being filed to register an additional amount of the Company's common stock pursuant to Rule 462(b) under the Securities Act of 1933, as amended (the "Securities Act").
- (2) As of the date of this registration statement, the maximum aggregate offering price of securities which remain to be offered pursuant to the Prior Registration Statement is \$34,775,000. The maximum aggregate offering price of the additional securities being registered hereby pursuant to Rule 462(b) under the Securities Act is \$5,475,000, which represents approximately 16% of the maximum aggregate offering price of securities remaining on the Prior Registration Statement.
- (3) Calculated pursuant to Rule 457(o) under the Securities Act.

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**This Registration Statement will become effective upon filing with the Securities and Exchange Commission in accordance with Rule 462(b) of the Securities Act.**

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## **EXPLANATORY NOTE AND INCORPORATION BY REFERENCE**

This Registration Statement is being filed by the Company with respect to the registration of an additional amount of the Company's common stock, par value \$0.0000002 per share, pursuant to Rule 462(b) under the Securities Act. This Registration Statement relates to the Prior Registration Statement, which was declared effective by the Securities and Exchange Commission on May 26, 2011. The Company is filing this Registration Statement for the sole purpose of increasing the aggregate amount of common stock offered by the Company by \$5,475,000. Pursuant to Rule 462(b), the contents of the Prior Registration Statement are incorporated by reference into this Registration Statement.

**SIGNATURES**

Pursuant to the requirements of the Securities Act, 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 San Diego, California, on October 25, 2013.

MEI Pharma, Inc.

By: /s/ Daniel P. Gold

Name: Daniel P. Gold

Title: President and Chief Executive Officer

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed below by the following persons, in the capacities indicated, on October 25, 2013:

<u>Signature</u>	<u>Title</u>
<u>/s/ Daniel P. Gold</u> Daniel P. Gold	President and Chief Executive Officer (Principal Executive Officer)
<u>/s/ Thomas M. Zech</u> Thomas M. Zech	Chief Financial Officer (Principal Financial and Accounting Officer)
<u>/s/ Christine A. White</u> Christine A. White	Lead Director
<u>/s/ Leah Rush Cann</u> Leah Rush Cann	Director
<u>/s/ William D. Rueckert</u> William D. Rueckert	Director
<u>/s/ Charles V. Baltic III</u> Charles V. Baltic III	Director
<u>/s/ Thomas C. Reynolds</u> Thomas C. Reynolds	Director
<u>/s/ Nicholas R. Glover</u> Nicholas R. Glover	Director

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## Exhibit Index

- 5.1 Opinion of Morgan, Lewis & Bockius LLP.
- 23.1 Consent of BDO USA, LLP
- 23.2 Consent of Morgan, Lewis & Bockius LLP (included in Exhibit 5.1 above).

[Letterhead of Morgan, Lewis &amp; Bockius LLP]

October 25, 2013

MEI Pharma, Inc.  
11975 El Camino Real, Suite 101  
San Diego, California 92130

Re: MEI Pharma, Inc. – Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to MEI Pharma, Inc., a Delaware corporation (the "Company"), in connection with the filing by the Company of its Registration Statement on Form S-3 (the "Additional Registration Statement") with the Securities and Exchange Commission ("SEC") pursuant to Rule 462(b) of the Securities Act of 1933, as amended (the "Act"). The Additional Registration Statement relates to the proposed offer and sale by the Company of up to \$5,475,000 (the "Shares") of the Company's common stock, par value \$0.00000002 per share (the "Common Stock"). The Additional Registration Statement incorporates by reference the Registration Statement on Form S-3 (File No. 333-173266) (the "Original Registration Statement") and, together with the Additional Registration Statement, the "Registration Statement", which was declared effective on May 26, 2011, including the prospectus which forms a part of the Registration Statement (the "Prospectus").

In connection with this opinion letter, we have examined originals, or copies certified or otherwise identified to our satisfaction, of the Registration Statement, the Prospectus, the Restated Certificate of Incorporation, as amended, and the Amended and Restated Bylaws of the Company and such other documents, records and other instruments as we have deemed appropriate for purposes of the opinions set forth herein.

We have assumed the genuineness of all signatures, the legal capacity of all natural persons, the authenticity of the documents submitted to us as originals, the conformity with the originals of all documents submitted to us as certified, facsimile or photostatic copies and the authenticity of the originals of all documents submitted to us as copies.

We have assumed that, at the time of issuance and sale, a sufficient number of shares of Common Stock will be authorized and available for issuance and that the consideration for the issuance and sale of the Shares will be in an amount that is not less than the par value of the Common Stock.

Subject to the foregoing and the other matters set forth herein, it is our opinion that, with respect to the Shares offered under the Registration Statement, provided that (i) the Registration Statement and any required post-effective amendment thereto have all become effective under the Securities Act and the Prospectus and any and all prospectus supplement(s) required by applicable laws have been delivered and filed as required by such laws, (ii) the issuance of the Shares has been duly authorized by all necessary corporate action on the part of the Company and (iii) the issuance and sale of the Shares does not violate

any applicable law, are in conformity with the Company's Restated Certificate of Incorporation and Amended and Restated Bylaws, do not result in a default under or breach of any agreement or instrument binding upon the Company, then the Shares, when issued and sold as contemplated in the Registration Statement, the Prospectus and the related prospectus supplement(s) and in accordance with any applicable duly authorized, executed and delivered purchase, underwriting or similar agreement, will be duly authorized, validly issued, fully paid and nonassessable.

The opinions expressed herein are limited to the Delaware General Corporation Law and we express no opinion with respect to the laws of any other state or jurisdiction.

We hereby consent to the use of this opinion as an exhibit to the Registration Statement and to the reference to us under the caption "Legal Matters" in the Prospectus. In giving such consent, we do not hereby admit that we are acting within the category of persons whose consent is required under Section 7 of the Act or the rules or regulations of the SEC thereunder.

Very truly yours,

/s/ Morgan, Lewis & Bockius LLP

Consent of Independent Registered Public Accounting Firm

MEI Pharma, Inc.  
San Diego, California 92130

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement of our report dated September 17, 2013, relating to the financial statements of MEI Pharma, Inc., which comprise the balance sheets as of June 30, 2013 and 2012 and the related statements of operations, stockholders' equity, and cash flows for each of the years ended June 30, 2013 and 2012 and for the period from inception (December 1, 2000) to June 30, 2013, and the related notes to the financial statements, appearing in the Company's Annual Report on Form 10-K for the year ended June 30, 2013.

We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/ BDO USA, LLP  
La Jolla, California

October 25, 2013