

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

**FORM S-8**

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

**DISCOVERY LABORATORIES, INC.**

(Exact name of registrant as specified in its charter)

**Delaware**

(State or Other Jurisdiction of Incorporation)

**94-3171943**

(I.R.S. Employer Identification Number)

2600 Kelly Road, Suite 100  
Warrington, Pennsylvania 18976-3622  
(Address, Including Zip, of Registrant's Principal Executive Offices)

Discovery Laboratories, Inc. 401(k) Plan  
(Full title of the plan)

Mary B. Templeton, Esq.  
Senior Vice President, General Counsel and Corporate Secretary  
Discovery Laboratories, Inc.  
2600 Kelly Road, Suite 100  
Warrington, Pennsylvania 18976-3622  
(215) 488-9300

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

Copies to:  
Ira L. Kotel, Esq.  
Dentons US LLP  
1221 Avenue of the Americas  
New York, New York 10020  
(212) 768-6700

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

**CALCULATION OF REGISTRATION FEE**

Title of Securities to be Registered	Amount to be Registered	Proposed Maximum Offering Price Per Share(2)	Proposed Maximum Aggregate Offering Price(2)	Amount of Registration Fee
Common Stock, \$0.001 par value	250,000(1)	\$2.00	\$500,000	\$68.20

(1) Represents an additional 250,000 shares of Common Stock, par value \$0.001 per share (the "Common Stock"), issuable under the 401(k) Plan (the "Plan") of Discovery Laboratories, Inc. (the "Company"). The issuance of such shares under the Plan was approved by the Board of Directors on September 13, 2013. The Plan qualifies as an employee benefit plan as defined under Rule 405 of Regulation C. Pursuant to Rule 416 promulgated under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement shall be deemed to cover any additional shares of Common Stock that become issuable under the Plan by reason of any stock splits, stock dividends or recapitalizations or other similar transactions, plus any additional shares.

(2) Estimated solely for the purpose of calculating the registration fee pursuant to Rules 457(c) and (h) promulgated under the Securities Act, by taking the average of the high and low sales price per share of the Common Stock on The Nasdaq Capital Market on September 26, 2013.

## EXPLANATORY NOTE

This registration statement is being filed pursuant to General Instruction E of Form S-8 under the Securities Act to register an additional 250,000 shares of our Common Stock, that may be issued pursuant to the 401(k) Plan (the "Plan") of Discovery Laboratories, Inc. (the "Company") plus any additional securities that become issuable under the 401(k) Plan by reason of any stock splits, stock dividends or recapitalizations or other similar transactions.

The Company previously registered shares of Common Stock for issuance under the Plan on registration statements on Form S-8 filed with the Securities and Exchange Commission (the "Commission") on November 12, 2003 (File No. 333-110412), September 28, 2006 (File No. 333-137643), December 23, 2008 (File No. 333-156443), January 22, 2010 (File No. 333-164470), March 31, 2010 (File No. 333-165809), September 30, 2010 (File No. 333-169662), April 1, 2011 (File No. 333-173259), March 30, 2012 (File No. 333-180497) and March 22, 2013 (File No. 333-187486). Pursuant to General Instruction E to Form S-8 and with respect to the additional shares of Common Stock registered hereunder for issuance under the Plan, the contents of such registration statements, including all exhibits thereto as applicable, are incorporated herein by reference.

All documents subsequently filed by the Company pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), prior to the filing of a post-effective amendment which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference herein and to be part hereof from the date of filing of such documents. Any statement contained herein or 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 other subsequently filed document which also is incorporated or 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.

### PART I

#### INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The documents containing the information specified in Part I, Items 1 and 2, will be delivered to each of the participants in accordance with Rule 428 under the Securities Act, and the Note to Part I of Form S-8. Those documents do not need to be filed with the Commission either as part of this registration statement or as prospectuses or prospectus supplements pursuant to Rule 424 under the Securities Act. These documents and the documents incorporated by reference in 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

#### Item 3. Incorporation of Documents by Reference.

The SEC allows us to "incorporate by reference" the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this registration statement, and information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents filed with SEC listed below:

1. Our Annual Report on Form 10-K for the year ended December 31, 2012, filed on March 15, 2013;
2. Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2013, filed on May 7, 2013;
3. Our Quarterly Report on Form 10-Q for the quarter ended June 30, 2013, filed on August 8, 2013;
4. Our Current Reports on Form 8-K filed on January 4, 2013, January 8, 2013, February 13, 2013, February 20, 2013, March 13, 2013 (excluding the matters in Item 2.02 and Exhibit 99.1 therein, which are not incorporated by reference herein), March 15, 2013, April 2, 2013, April 15, 2013, May 7, 2013, May 10, 2013, May 31, 2013, June 10, 2013, June 11, 2013, June 14, 2013 and August 8, 2013 (excluding the matters in Item 2.02 and Exhibit 99.1 therein, which are not incorporated by reference herein); and
5. The description of our common stock contained in our registration statement on Form 8-A filed with the Commission on July 13, 1995 and February 6, 2004.

Furthermore, all reports and other documents subsequently filed by us with the Commission pursuant to Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act prior to the filing of a post-effective amendment which indicates that all securities offered 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 of this registration statement from the date of filing of such reports and documents. Any statement contained in any 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 in this registration statement or in any other subsequently filed document which also is or is deemed to be incorporated by reference in this registration statement 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 registration statement.

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## INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

### Item 8. Exhibits.

<u>Exhibit No.</u>	<u>Description</u>	<u>Method of Filing</u>
4.1	Form of Discovery Laboratories, Inc. 401(k) Plan.	Incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-8 filed on January 22, 2010 (File No. 333-164470).
<a href="#">5.1</a>	Opinion of Dentons US LLP, legal counsel.*	Filed herewith.
23.1	Consent of Dentons US LLP (included in Exhibit 5.1).	Filed herewith.
<a href="#">23.2</a>	Consent of Ernst & Young LLP, independent registered public accounting firm.	Filed herewith.
24.1	Powers of Attorney (included in signature page to this registration statement).	Filed herewith.

\* In accordance with Item 8 of Form S-8, and in lieu of the opinion of counsel or determination contemplated by Item 601(b)(5) of Regulation S-K, the Company hereby undertakes that it will submit the Plan and all amendments thereto to the Internal Revenue Service ("IRS") in a timely manner, and that it will make all changes required by the IRS in order to qualify the Plan.

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## 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-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Warrington, Commonwealth of Pennsylvania on this 1st day of October, 2013.

**DISCOVERY LABORATORIES, INC.**  
(Registrant)

By: /s/ John G. Cooper  
John G. Cooper  
President and Chief Executive Officer and  
Chief Financial Officer

## POWER OF ATTORNEY

We, the undersigned officers and directors of Discovery Laboratories, Inc., and each of us, do hereby constitute and appoint each of John G. Cooper, Mary B. Templeton, Esq., and John Tattory, or any of them, each acting alone, his true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, to do any and all acts and things in our name, place and stead, in any and all capacities, in connection with this registration statement on Form S-8 under the Securities, or any registration statement for the same offering that is to be effective upon filing under the Securities Act, including, without limitation, to sign for us or any of us in our names in the capacities indicated below any and all amendments or supplements to this registration statement, including any and all post-effective amendments to the registration statement, and to sign any and all additional registration statements relating to the same offering of securities as this registration statement that are filed pursuant to Rule 462(b) under the Securities Act, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission and any applicable securities exchange or securities self-regulatory body, granting unto said attorneys-in-fact and agents, each acting alone, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

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

<b>Signature</b>	<b>Name &amp; Title</b>	<b>Date</b>
<u>/s/ John G. Cooper</u>	John G. Cooper Director, President, Chief Executive Officer, and Chief Financial Officer (Principal Financial Officer)	October 1, 2013
<u>/s/ John Tattory</u>	John Tattory Vice President, Finance, and Chief Accounting Officer (Principal Accounting Officer)	October 1, 2013
<u>/s/ John R. Leone</u>	John R. Leone Chairman of the Board of Directors	October 1, 2013
<u>/s/ Joseph M. Mahady</u>	Joseph M. Mahady Director	October 1, 2013
<u>/s/ Bruce A. Peacock</u>	Bruce A. Peacock Director	October 1, 2013
<u>/s/ Marvin E. Rosenthale</u>	Marvin E. Rosenthale, Ph.D. Director	October 1, 2013

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October 1, 2013

Board of Directors  
Discovery Laboratories, Inc.  
2600 Kelly Road, Suite 100  
Warrington, Pennsylvania 18976-3622

Re: Discovery Laboratories, Inc. 401(k) Plan  
Registration Statement on Form S-8

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Ladies and Gentlemen:

We have acted as counsel for Discovery Laboratories, Inc., a Delaware corporation (the “**Company**”), in connection with the preparation of the Company’s registration statement on Form S-8 (the “**Registration Statement**”), as filed with the Securities and Exchange Commission (the “**Commission**”) under the Securities Act of 1933, as amended (the “**Securities Act**”), for the registration under the Securities Act of the issuance of 250,000 shares (the “**Shares**”) of the Company’s common stock, par value \$0.001 per share (the “**Common Stock**”) to be issued pursuant to the Company’s 401(k) Plan, as amended (the “**Plan**”).

In connection with this opinion, we have examined originals or copies, certified or otherwise identified to our satisfaction, of (i) the Plan; (ii) the Company’s Restated Certificate of Incorporation, as amended; (iii) the Company’s Amended and Restated By-Laws; and (iv) resolutions adopted by the Company’s Board of Directors on September 13, 2013. We have also examined originals or copies, certified or otherwise identified to our satisfaction, of such records of the Company and such agreements, certificates of public officials, certificates of officers or other representatives of the Company, and such other documents, certificates and records as we have deemed necessary or appropriate as a basis for the opinions set forth herein. As to various questions of fact material to this opinion, we have also relied upon representations and warranties of the Company and upon such certificates and other instruments of officers of the Company and public officials furnished to us by the Company, in each case without independent investigation or verification of their accuracy. We have also assumed that there are no agreements or understandings between or among the Company and any participants in the Plan that would expand, modify or otherwise affect the terms of the Plan or the respective rights or obligations of the participants thereunder, and that each award agreement setting forth the terms of each grant of options or other awards under the Plan is consistent with the Plan and has been duly authorized and validly executed and delivered by the parties thereto.

In our examination, we have assumed (i) the genuineness of all signatures; (ii) the authenticity of all documents submitted to us as originals; (iii) the conformity to original documents of all documents submitted to us as certified, conformed, photostatic, electronic or facsimile copies and the authenticity of the originals of such documents; (iv) the authority of all persons signing any document; (v) the enforceability of all the documents and agreements we have reviewed in accordance with their respective terms against the parties thereto; and (vi) the truth and accuracy of all matters of fact set forth in all certificates and other instruments furnished to us.

Based upon the foregoing, and subject to the assumptions, qualifications and limitations set forth herein, we are of the opinion that the Shares, when issued and paid for in accordance with the terms of the Plan, will be validly issued, fully paid and non-assessable.

No opinion is expressed herein with respect to any laws other than Delaware corporate law (which includes the Delaware General Corporation Law and applicable provisions of the Delaware constitution, as well as reported judicial opinions interpreting same). No opinion is expressed as to the effect that the law of any other jurisdiction may have upon the subject matter of the opinion expressed herein under conflicts of law principles, rules and regulations or otherwise.

This opinion is expressed as of the date hereof. We assume no obligation to supplement this letter if any applicable laws change after the date hereof or if we become aware of any new facts that might affect any view expressed herein after the date hereof.

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We hereby consent to the filing of this opinion as Exhibit 5.1 to the Registration Statement. In giving this consent, we do not hereby admit that we are within the category of persons whose consent is required by Section 7 of the Securities Act or the rules and regulations promulgated thereunder by the Commission.

We are delivering this opinion to you at your request in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act, and not for any other purpose.

Very truly yours,

/s/ Dentons US LLP  
**Dentons US LLP**

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Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8 No. 333-00000) pertaining to the Discovery Laboratories, Inc. 401(k) Plan of our reports dated March 15, 2013, with respect to the consolidated financial statements of Discovery Laboratories, Inc. and the effectiveness of internal control over financial reporting of Discovery Laboratories, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2012, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Philadelphia, Pennsylvania  
October 1, 2013

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