UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, DC 20549

FORM S-8 REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

> Lion Biotechnologies, Inc. (Exact name of registrant as specified in its charter)

Nevada (State or other jurisdiction of incorporation or organization) 75-3254381 (I.R.S. Employer Identification Number)

999 Skyway Road, Suite 150 San Carlos, California 94070 (Address of registrant's principal executive offices, including zip code)

> Lion Biotechnologies, Inc. 2014 Equity Incentive Plan (Full title of the plan)

Maria Fardis, Ph.D. President and Chief Executive Officer Lion Biotechnologies, Inc. 999 Skyway Road, Suite 150 San Carlos, California 94070 (650) 260-7120) (Name, address, including zip code, and telephone number, including area code, of agent for service)

> With copies to: Istvan Benko TroyGould PC 1801 Century Park East, 16th Floor Los Angeles, California 90067 (310) 553-4441

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 o Non-accelerated filer o (Do not check if a smaller reporting company) Accelerated filer 🛛 Smaller reporting company o

CALCULATION OF REGISTRATION FEE

Title of each class 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, par value \$0.000041666 per share	5,000,000 ⁽²⁾	\$5.875 ⁽³⁾	\$29,375,000	\$3,404.56

(1) Pursuant to Rule 416(a) of the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement also covers such additional shares of common stock as may become issuable under the plans in the event of a stock split, stock dividend, recapitalization or other similar change in the outstanding shares of common stock.

(2) Represents shares of common stock reserved for issuance following the grant of future awards under the 2014 Equity Incentive Plan (the "2014 Plan").

(3) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(c) under the Securities Act, and (h) under the Securities Act based on the average of the high and low sale prices of the common stock as reported on the Nasdaq Global Market on November 4, 2016.

EXPLANATORY NOTE UNDER GENERAL INSTRUCTION E

REGISTRATION OF ADDITIONAL SECURITIES AND INCORPORATION BY REFERENCE

This Registration Statement relates solely to the registration of additional securities of the same class as other securities for which a registration statement on this form relating to an employee benefit plan is effective. A Registration Statement on Form S-8, File No. 333-205097 was filed on June 18, 2015 to register 3,918,000 shares of common stock of Lion Biotechnologies, Inc. ("Registrant"), that were issuable under Registrant's 2014 Equity Incentive Plan (the "2014 Plan"). At its annual meeting of stockholders held on August 16, 2016, the stockholders of the Registrant approved an amendment to the 2014 Plan to increase the number of shares issuable upon the exercise of options and other awards granted thereunder by 5,000,000 shares. Accordingly, this registration statement registers those additional 5,000,000 shares of common stock issuable under the 2014 Plan.

INCORPORATION BY REFERENCE OF PRIOR REGISTRATION STATEMENT

The contents of the Registration Statement of Registrant, File No. 333-205097, filed on June 18, 2015, as that registration statement may be amended, are incorporated into this Registration Statement by this reference, pursuant to General Instruction E to Form S-8, except that the provisions contained in Part II of such earlier registration statement are modified as set forth in this registration statement.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. Incorporation of Documents by Reference

Registrant hereby incorporates by reference the following documents previously filed with the Securities and Exchange Commission (the "Commission"):

- our Annual Report on Form 10-K for the year ended December 31, 2015 filed with the SEC on March 11, 2016;
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2016, June 30, 2016 and September 30, 2016, filed with the SEC on May 9, 2016, August 9, 2016 and November 4, 2016, respectively;
- our Current Reports on Form 8-K filed with the SEC on January 4, 2016, March 10, 2016, March 15, 2016, April 7, 2016, May 9, 2016, May 27, 2016, June 3, 2016, June 8, 2016, July 8, 2016, August 8, 2016, August 18, 2016, August 24, 2016, September 15, 2016, October 3, 2016, November 3, 2016, and November 4, 2016, respectively; and
- the description of our stock contained in our registration statement on Form 8-A filed on February 25, 2015 pursuant to Section 12 of the Exchange Act, as such statement may be amended from time to time.

All documents filed by Registrant 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 securities offered hereby have been sold or which deregisters all such securities then remaining unsold, shall be deemed to be incorporated by reference herein and to be a part hereof from the date of filing of such documents. Any statement contained in this Registration Statement, in an amendment hereto 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 subsequently filed amendment to this Registration Statement or in any document that is or is deemed to be incorporated by reference herein modifies or supersedes such statement.

Under no circumstances shall any information furnished prior to or subsequent to the date hereof under Item 2.02 or 7.01 of Form 8-K be deemed incorporated herein by reference unless such Form 8-K expressly provides to the contrary.

ITEM 8. Exhibits

See the Exhibit Index following the signature page for a list of exhibits filed as part of this Registration Statement, which Exhibit Index is incorporated herein by reference.

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 this 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 this Registration Statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this 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 Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in this Registration Statement.

(2) That, for the purpose of determining any liability under the Securities Act, 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.

(b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of 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 this 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.

(h) 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 foregoing 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.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, 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 San Carlos, California, on November 10, 2016.

LION BIOTECHNOLOGIES, INC.

By: /s/ Maria Fardis

Maria Fardis President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each individual whose signature appears below constitutes and appoints Maria Fardis and Gregory T. Schiffman, and each of them, his/her true and lawful attorneys-in-fact and agents with full power of substitution and re-substitution, for him/her and in his/her name, place and stead, in any and all capacities, to sign any and all amendments, including post-effective amendments, to this Registration Statement, and to sign any registration statement for the same offering covered by this Registration Statement and filed pursuant to Rule 462 under the Securities Act of 1933, as amended, and to file the same, with all exhibits thereto and all documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, 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 any of them, or her or his or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities indicated.

Signature	Title	Date
/s/ Maria Fardis Maria Fardis, Ph.D.	Chief Executive Officer and Director (Principal Executive Officer)	November 10, 2016
/s/ Gregory T. Schiffman Gregory T. Schiffman	Chief Financial Officer (Principal Financial and Accounting Officer)	November 10, 2016
/s/ Merrill A. McPeak Merrill A. McPeak	Director	November 10, 2016
/s/ Jay Venkatesan Jay Venkatesan	Director	November 10, 2016
/s/ Sanford J. Hillsberg Sanford J. Hillsberg	Director	November 10, 2016
/s/Wayne Rothbaum Wayne Rothbaum	Director	November 10, 2016
/s/ Ryan Maynard Ryan Maynard	Director	November 10, 2016
/s/ Iain Dukes Iain Dukes	Director	November 10, 2016

EXHIBIT INDEX

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Exhibit No.	Description
4.1	Amended and Restated Articles of Incorporation of Registrant (incorporated herein by reference to Registrant's definitive Information Statement on Schedule 14C filed with the Commission on August 20, 2013).
4.2	Bylaws of Registrant (incorporated herein by reference to the Registrant's Registration Statement on Form SB-2 (Reg. No. 333-148920) filed with the Commission on January 29, 2008).
4.3	Amendment to Bylaws (incorporated herein by reference to the Registrant's Current Report on Form 8-K filed with the Commission on May 29, 2013).
4.4	Specimen Common Stock Certificate of Registrant (incorporated herein by reference to Registrant's registration statement on Form 8-A filed on February 25, 2015).
4.5	Lion Biotechnologies, Inc. 2014 Equity Incentive Plan, as amended (incorporated herein by reference to Appendix A to Registrant's definitive Proxy Statement on Schedule 14A filed with the Commission on July 7, 2016).
4.6	Form of ISO Stock Option Agreement under 2014 Equity Incentive Plan (incorporated herein by reference to Registrant's registration statement on Form S-8, File No. 333-205097, filed on June 18, 2015).
4.7	Form of NQSO Stock Option Agreement under 2014 Equity Incentive Plan (incorporated herein by reference to Registrant's registration statement on Form S-8, File No. 333-205097, filed on June 18, 2015).
5.1	Opinion of TroyGould PC
23.1	Consent of TroyGould PC (included in Exhibit 5.1)
23.2	Consent of Weinberg & Company
24.1	Power of Attorney (included on the signature page herein)

TroyGould PC 1801 Century Park East, 16th Floor Los Angeles, California 90067

November 10, 2016

Lion Biotechnologies, Inc. 999 Skyway Road, Suite 150 San Carlos, California 94070

Ladies and Gentlemen:

We have acted as counsel to Lion Biotechnologies, Inc., a Nevada corporation (the "<u>Company</u>"), in connection with a Registration Statement on Form S-8 (the "<u>Registration Statement</u>") to be filed with the Securities and Exchange Commission (the "<u>Commission</u>") on or about the date of this opinion letter and relating to a total of 5,000,000 shares of common stock of the Company, par value \$0.000041666 per share (the "<u>Shares</u>"), issuable under the Company's 2014 Equity Incentive Plan (collectively, the "<u>Plan</u>"). This opinion letter is furnished to you at your request and in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act of 1933, as amended.

As a basis for rendering our opinion expressed below, we have reviewed originals or copies of originals, certified or otherwise identified to our satisfaction, of (i) the Registration Statement, (ii) the Plan, (iii) the Company's Amended and Restated Certificate of Incorporation and Bylaws, each as amended to date, (iv) minutes or resolutions of the Company's Board of Directors and stockholders pertaining to the adoption of the Plan and authorization and issuance of the Shares, the Registration Statement and related matters, and (v) such certificates of public officials, certificates of officers of the Company and other documents as we have considered necessary or appropriate as a basis for rendering our opinion.

With your permission, in order to render our opinion, we have made and relied upon such customary assumptions as we have deemed necessary or appropriate without any independent investigation or inquiry by us. Among other things, we have assumed that: all signatures on documents reviewed by us are genuine; all documents submitted to us as originals are authentic; and all documents submitted to us as copies conform to the originals of such documents, and such originals are authentic.

The law covered by our opinion expressed below is limited to the internal corporation laws of the State of Nevada (including applicable rules and regulations promulgated thereunder and applicable reported judicial decisions interpreting the same). We neither express nor imply any opinion with respect to any other laws or the laws of any other jurisdiction.

Based upon and subject to the foregoing, we are of the opinion that the Shares, when issued and paid for in accordance with the terms of the Registration Statement and the Plan, will be validly issued, fully paid, and non-assessable.

Lion Biotechnologies, Inc. November 10, 2016 Page 2 of 2

This opinion letter is rendered to you solely in connection with the transactions contemplated by the Registration Statement and may not be relied upon for any other purpose. We consent to the filing with the Commission of this opinion letter as Exhibit 5.1 to the Registration Statement. In giving such consent, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ TroyGould PC

TROYGOULD PC

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in this Registration Statement on Form S-8 pertaining to the Lion Biotechnologies, Inc. 2014 Equity Incentive Plan of our reports dated March 11, 2016, with respect to the financial statements of Lion Biotechnologies, Inc. and the effectiveness of internal control over financial reporting of Lion Biotechnologies, Inc. which appear in Lion Biotechnologies, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2015 filed with the Securities and Exchange Commission on March 11, 2016.

/s/ WEINBERG & COMPANY, P.A. Los Angeles, California November 10, 2016