

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-8

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

PHIO PHARMACEUTICALS CORP.

(Exact Name of Registrant as Specified in the Charter)

Delaware

(State or other jurisdiction of incorporation or organization)

45-3215903

(I.R.S. Employer Identification No.)

**257 Simarano Drive, Suite 101
Marlborough, MA**

(Address of principal executive offices)

01752

(Zip Code)

2012 Phio Pharmaceuticals Corp. Long Term Incentive Plan

(Full title of the plan)

**Gerrit Dispersyn, Dr. Med. Sc.
President & Chief Executive Officer
Phio Pharmaceuticals Corp.**

**257 Simarano Drive, Suite 101
Marlborough, Massachusetts 01752
(508) 767-3861**

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

Copies to:

**Ryan A. Murr
Gibson, Dunn & Crutcher LLP
555 Mission Street, Suite 3000
San Francisco, CA 94105
Telephone: (415)393-8373
Facsimile: (415) 374 - 8430**

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Non-accelerated filer

Accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of each class 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 \$0.0001 per share ("Common Stock"), to be issued under the 2012 Phio Pharmaceuticals Corp. Long Term Incentive Plan	59,090	\$2.806	\$165,806.54	\$21.52

(1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended, this Registration Statement also covers such additional shares of Common Stock as may be issued under the 2012 Phio Pharmaceuticals Corp. Long Term Incentive Plan (the "2012 LTIP") to prevent dilution from stock splits, stock dividends and similar transactions.

(2) Calculated pursuant to Rule 457(h) of the Securities Act of 1933, as amended, solely for the purpose of computing the amount of the registration fee, on the basis of the average of the high and low prices of the registrant's Common Stock quoted on The Nasdaq Capital Market on February 27, 2020.

EXPLANATORY NOTE

On January 10, 2020, the Company's Board of Directors approved a 1-for-55 reverse stock split of the Company's outstanding common stock, which was effected on January 15, 2020. The share and per share amounts for the periods incorporated by reference in this Registration Statement do not give effect to the reverse stock split.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE PURSUANT TO GENERAL INSTRUCTION E OF FORM S-8

This Registration Statement has been filed by Phio Pharmaceuticals Corp. (the "**Registrant**") to register 59,090 additional shares of Common Stock to be offered pursuant to the 2012 LTIP. Pursuant to Instruction E to Form S-8, the Registrant incorporates by reference the Registration Statements on Form S-8 filed with the Securities and Exchange Commission on August 30, 2012 (File No. 333-183633), June 21, 2013 (File No. 333-189522), February 2, 2017 (File No. 333-215870) and August 24, 2018 (File No. 333-227013), together with all exhibits filed therewith or incorporated herein by reference.

ITEM 8.

Exhibit Number	Description
5.1	Opinion of Gibson, Dunn & Crutcher LLP .*
23.1	Consent of Gibson, Dunn & Crutcher LLP (included in Exhibit 5.1). *
23.2	Consent of BDO USA, LLP, Independent Registered Public Accounting Firm .*
24.1	Powers of Attorney .* (Included on the signature page)
99.1	Phio Pharmaceuticals Corp. 2012 Long Term Incentive Plan (incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 10-Q filed on November 12, 2019)

* Filed herewith.

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 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 Marlborough, Massachusetts, on February 28, 2020.

PHIO PHARMACEUTICS CORP.

By: /s/ Gerrit Dispersyn
Gerrit Dispersyn, Dr. Med. Sc.
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Gerrit Dispersyn, Dr. Med. Sc. as attorney-in-fact and agent, with full power of substitution and resubstitution, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, 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 and agent, with full power to act alone, 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 and agent, or his substitute or substitutes, may do or cause to be done by virtue thereof.

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

Signature	Title	Date
<u>/s/Gerrit Dispersyn</u> Gerrit Dispersyn, Dr. Med. Sc.	President and Chief Executive Officer (Principal Executive Officer and Principal Financial Officer)	February 28, 2020
<u>/s/Caitlin Kontulis</u> Caitlin Kontulis	Vice President of Finance and Administration and Secretary (Principal Accounting Officer)	February 28, 2020
<u>/s/ Robert J. Bitterman</u> Robert J. Bitterman	Director	February 28, 2020
<u>/s/ Geert Cauwenbergh</u> Geert Cauwenbergh, Dr. Med. Sc.	Director	February 28, 2020
<u>/s/ H. Paul Dorman</u> H. Paul Dorman	Director	February 28, 2020
<u>/s/ Robert Ferrara</u> Robert Ferrara	Director	February 28, 2020
<u>/s/ Jonathan Freeman</u> Jonathan E. Freeman, Ph.D.	Director	February 28, 2020
<u>/s/ Curtis A. Lockshin</u> Curtis A. Lockshin, Ph.D.	Director	February 28, 2020

February 28, 2020

Phio Pharmaceuticals Corp.
257 Simarano Drive, Suite 101
Marlborough, Massachusetts 01752

Re: *Phio Pharmaceuticals Corp.—Registration Statement on Form S-8 of an additional 59,050 Shares of Common Stock (the “Shares”)*

Ladies and Gentlemen:

We have examined the Registration Statement on Form S-8 (the “Registration Statement”) of Phio Pharmaceuticals Corp., a Delaware corporation (the “Company”), filed on the date hereof with the Securities and Exchange Commission (the “Commission”) pursuant to the Securities Act of 1933, as amended (the “Securities Act”), in connection with the offering of an additional 59,090 Shares reserved for issuance under the Phio Pharmaceuticals Corp. 2012 Long Term Incentive Plan, as amended and restated (the “Plan”).

We have examined the originals, or photostatic or certified copies, of such records of the Company and certificates of officers of the Company and of public officials and such other documents as we have deemed relevant and necessary as the basis for the opinions set forth below. In our examination, we have assumed the genuineness of all signatures, the legal capacity and competency of all natural persons, the authenticity of all documents submitted to us as originals and the conformity to original documents of all documents submitted to us as copies.

Based upon the foregoing examination and in reliance thereon, and subject to the assumptions stated and in reliance on statements of fact contained in the documents that we have examined, we are of the opinion that the Shares issuable under the Plan, when issued in accordance with the terms of the Plan, will be validly issued, fully paid and non-assessable.

We render no opinion herein as to matters involving the laws of any jurisdiction other than the Delaware General Corporation Law (the “DGCL”). We are not admitted to practice in the State of Delaware; however, we are generally familiar with the DGCL as currently in effect and have made such inquiries as we consider necessary to render the opinions above. This opinion is limited to the effect of the current state of the law of the DGCL and the facts as they currently exist. We assume no obligation to revise or supplement this opinion in the event of future changes in such law or the interpretations thereof or such facts.

We consent to the filing of this opinion as an exhibit to the Registration Statement. In giving this 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.

Very truly yours,

/s/ Gibson, Dunn & Crutcher LLP

Consent of Independent Registered Public Accounting Firm

Phio Pharmaceuticals Corp.
Marlborough, Massachusetts

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement of our report dated March 27, 2019, relating to the consolidated financial statements of Phio Pharmaceuticals Corp. appearing in the Company's Annual Report on Form 10-K for the year ended December 31, 2018.

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

/s/ BDO USA, LLP
Boston, Massachusetts

February 28, 2020