

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

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

ZIOPHARM Oncology, Inc.

(Exact name of registrant as specified in its charter)

Delaware
 (State or other jurisdiction of
 incorporation or organization)

84-1475672
 (I.R.S. Employer
 Identification No.)

One First Avenue
Parris Building 34
Navy Yard Plaza
Boston, Massachusetts
 (Address of principal executive offices)

02129
 (Zip Code)

ZIOPHARM Oncology, Inc. 2012 Equity Incentive Plan
 (Full title of the plan)

Caesar Belbel
Chief Legal Officer
ZIOPHARM ONCOLOGY, INC.
One First Avenue, Building 34
Boston, Massachusetts 02129
(617) 259-1970
 (Name, address and telephone number, including area code, of agent for service)

With a copy to:

Marc Recht
COOLEY LLP
500 Boylston Street, 14th Floor
Boston, Massachusetts 02116
(617) 937-2300

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)(2)	Proposed maximum offering price per share	Proposed maximum aggregate offering price	Amount of registration fee
Common stock, par value \$0.001 per share	5,000,000 shares	\$2.45(3)	\$12,250,000(3)	\$1,423.45

(1) In accordance with Rule 416 under the Securities Act of 1933, as amended, this registration statement shall be deemed to cover any additional securities

that may from time to time be offered or issued to prevent dilution resulting from stock splits, stock dividends or similar transactions.

- (2) This registration statement registers an additional 5,000,000 shares issuable under the ZIOPHARM Oncology, Inc. 2012 Equity Incentive Plan (the "2012 Plan"). These 5,000,000 shares represent an increase in the number of shares of Common Stock reserved for issuance under the 2012 Plan, which increase was approved by the Company's stockholders on June 18, 2014 at the Company's 2014 Annual Meeting of Stockholders. We have previously registered 4,000,000 shares issuable under the 2012 Plan on our Registration Statement on Form S-8 (File No. 333-185433) as filed with the Securities and Exchange Commission on December 12, 2012.
 - (3) Estimated solely for the purpose of calculating the registration fee pursuant to Rules 457(c) and (h) under the Securities Act of 1933, as amended, and based upon the average of the high and low prices of the registrant's common stock as reported on the NASDAQ Capital Market on October 10, 2014.
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**EXPLANATORY NOTE; INCORPORATION BY REFERENCE OF CONTENTS OF
REGISTRATION STATEMENT ON FORM S-8 (NO. 333-185433)**

This Registration Statement registers additional securities of the same class as other securities for which a registration statement filed on Form S-8 relating to the ZIOPHARM Oncology, Inc. 2012 Equity Incentive Plan (the "2012 Plan") is already effective. Pursuant to Instruction E to Form S-8, we incorporate by reference into this Registration Statement the contents of the registration statement that we filed on Form S-8 (File No. 333-185433) with the Securities and Exchange Commission on December 12, 2012 in its entirety and including exhibits thereto, relating to the registration of 4,000,000 shares of our Common Stock, par value \$0.001 per share, authorized for issuance under the 2012 Plan. This Registration Statement provides for the registration of an additional 5,000,000 shares of Common Stock to be issued under the 2012 Plan. These 5,000,000 shares represent an increase in the number of shares of Common Stock reserved for issuance under the 2012 Plan, which increase was approved by the Company's stockholders on June 18, 2014 at the Company's 2014 Annual Meeting of Stockholders.

EXHIBITS

Exhibit No.	Description of Document
4.1	Amended and Restated Certificate of Incorporation, as filed with the Delaware Secretary of State on April 26, 2006 (incorporated by reference to Exhibit 3.1 to the registrant's Current Report on Form 8-K (SEC File No. 000-32353) filed April 26, 2006)
4.2	Bylaws, as amended to date (incorporated by reference to Exhibit 3.3 to the registrant's Current Report on Form 8-K (SEC File No. 000-32353) filed September 19, 2005)
4.3	Specimen common stock certificate (incorporated by reference to Exhibit 4.1 to the registrant's Registration Statement on Form SB-2 (SEC File No. 333-129020) filed October 14, 2005)
5.1	Legal opinion of Cooley LLP
23.1	Consent of Independent Registered Public Accounting Firm
23.2	Consent of Cooley LLP (included as part of Exhibit 5.1)
24.1	Power of Attorney (included on the signature page to this Registration Statement)
99.1	ZIOPHARM Oncology, Inc. 2012 Equity Incentive Plan, as amended (incorporated by reference to Exhibit 10.1 to the registrant's Current Report on Form 8-K (SEC File No. 001-33038) filed June 19, 2014)
99.2	Form of Restricted Stock Agreement Granted Under the ZIOPHARM Oncology, Inc. 2012 Equity Incentive Plan (incorporated by reference to Exhibit 10.2 to the registrant's Current Report on Form 8-K (SEC File No. 001-33038) filed June 26, 2012)
99.3	Form of Option Agreement Granted Under the ZIOPHARM Oncology, Inc. 2012 Equity Incentive Plan (incorporated by reference to Exhibit 10.3 to the registrant's Current Report on Form 8-K (SEC File No. 001-33038) filed June 26, 2012)

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, 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 Boston, Commonwealth of Massachusetts, as of October 14, 2014.

ZIOPHARM Oncology, Inc.

By: /s/ Kevin G. Lafond

Name: Kevin G. Lafond

Title: Vice President, Chief Accounting Officer and Treasurer

POWER OF ATTORNEY AND SIGNATURES

Each person whose signature appears below hereby constitutes and appoints Jonathan Lewis, Caesar J. Belbel and Kevin G. Lafond, and each of them, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his 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 file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, 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 to 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 substitutes or 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 has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Jonathan Lewis</u> Jonathan Lewis	Director and Chief Executive Officer (Principal Executive Officer)	October 14, 2014
<u>/s/ Kevin G. Lafond</u> Kevin G. Lafond	Vice President, Chief Accounting Officer and Treasurer (Principal Accounting and Financial Officer)	October 14, 2014
<u>/s/ Murray Brennan</u> Murray Brennan	Director	October 14, 2014
<u>/s/ James Cannon</u> James Cannon	Director	October 14, 2014
<u>/s/ Wyche Fowler, Jr.</u> Wyche Fowler, Jr.	Director	October 14, 2014
<u>/s/ Randal J. Kirk</u> Randal J. Kirk	Director	October 14, 2014
<u>/s/ Timothy McNerney</u> Timothy McNerney	Director	October 14, 2014
<u>/s/ Michael Weiser</u> Michael Weiser	Director	October 14, 2014

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Marc A. Recht
T: +1 617 937 2316
mrecht@cooley.com

October 14, 2014

ZIOPHARM Oncology, Inc.
One First Avenue, Building 34
Boston, Massachusetts 02129

Ladies and Gentlemen:

You have requested our opinion with respect to certain matters in connection with the filing by ZIOPHARM Oncology, Inc., a Delaware corporation (the "**Company**"), of a Registration Statement on Form S-8 (the "**Registration Statement**") with the Securities and Exchange Commission under the Securities Act of 1933, as amended, covering the offering of up to 5,000,000 shares of the Company's common stock, \$0.001 par value per share (the "**Shares**"), pursuant to the Company's 2012 Equity Incentive Plan (the "**Plan**").

In connection with this opinion, we have examined and relied upon the Registration Statement and related prospectus, the Company's Restated Certificate of Incorporation and Amended and Restated By-Laws, each as currently in effect, the Plan, and originals, or copies certified to our satisfaction, of such other documents, records, certificates, memoranda and other instruments as we deemed necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness and authenticity of all documents submitted to us as originals, the conformity to originals of all documents submitted to us as copies thereof, and the due execution and delivery of all documents where due execution and delivery are a prerequisite to the effectiveness thereof. Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not sought independently to verify such matters. We express no opinion as to whether the laws of any particular jurisdiction are applicable to the subject matter hereof. We are not rendering any opinion as to compliance with any federal or state antifraud, rule or regulation relating to securities, or to the sale or issuance thereof.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares, when issued and sold in accordance with the Plan, the Registration Statement and the related prospectus, will be validly issued, fully paid and nonassessable (except as to Shares issued pursuant to certain deferred payment arrangements, which will be fully paid and nonassessable when such deferred payments are made in full).

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

Very truly yours, Cooley LLP

By: /s/ Marc A. Recht
Marc A. Recht

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in this Registration Statement on Form S-8 of ZIOPHARM Oncology, Inc. of our report dated March 3, 2014, relating to our audit of the financial statements and internal control over financial reporting, which appears in the Annual Report on Form 10-K of ZIOPHARM Oncology, Inc. for the year ended December 31, 2013.

/s/ McGladrey LLP

Boston, MA
October 14, 2014