

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

POST-EFFECTIVE AMENDMENT NO. 1
TO
FORM S-3
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Iovance Biotherapeutics, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(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)

Maria Fardis, Ph.D.
President and Chief Executive Officer
Iovance Biotherapeutics, 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:
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Tony Shin
TroyGould PC
1801 Century Park East, 16th Floor
Los Angeles, California 90067
(310) 553-4441

Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, 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, 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 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, 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 Accelerated filer
Non-accelerated filer (Do not check if a smaller reporting company) 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.

EXPLANATORY NOTE

On June 1, 2017, Lion Biotechnologies, Inc., a Nevada corporation (“Lion Nevada”), changed its state of incorporation from Nevada to Delaware (the “Reincorporation”) pursuant to a plan of conversion dated June 1, 2017. The Reincorporation was approved by the stockholders of Lion Nevada at the Annual Meeting of Stockholders on June 1, 2017 for which proxies were solicited pursuant to Section 14(a) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Upon the effectiveness of the Reincorporation, among other matters, the internal affairs of Lion Nevada became subject to the General Corporation Law of the State of Delaware and the certificate of incorporation and the bylaws of Lion Biotechnologies, Inc., a Delaware corporation (“Lion Delaware”), and each outstanding share of common stock and preferred stock of Lion Nevada was converted into one share of common stock and one share of preferred stock, respectively, of Lion Delaware. Lion Nevada and Lion Delaware, as issuer and successive issuer, respectively, under Rule 12g-3 of the Exchange Act, are collectively referred to herein as the “Registrant.”

On June 27, 2017, Lion Delaware changed its corporate name to Iovance Biotherapeutics, Inc. by filing an amendment to its Certificate of Incorporation with the Secretary of State of the State of Delaware.

This Post-Effective Amendment is being filed pursuant to Rule 414 under the Securities Act of 1933, as amended (the “Securities Act”), and constitutes Post-Effective Amendment No. 1 to the Registration Statement on Form S-3 (File No. 333-212373) (the “Registration Statement”) solely to reflect the change in the Registrant’s state of incorporation as a result of the Reincorporation or as necessary to keep the Registration Statement from being misleading in any material respect. In accordance with paragraph (d) of Rule 414 of the Securities Act, except as modified by this Post-Effective Amendment, Iovance Biotherapeutics, Inc., as successor issuer to Lion Nevada pursuant to Rule 12g-3 of the Exchange Act, hereby expressly adopts the Registration Statement as its registration statement for all purposes of the Securities Act and the Exchange Act.

The information contained in this prospectus is not complete and may be changed. The selling stockholders named in this prospectus may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell securities, and the selling stockholders are not soliciting offers to buy these securities, in any state where the offer or sale is not permitted.

PROSPECTUS

Subject to Completion, Dated July 31, 2017

Iovance Biotherapeutics, Inc.

20,769,034 Shares of Common Stock

This prospectus relates to the sale of up to (i) 12,822,361 outstanding shares of our common stock and (ii) 7,946,673 shares of common stock issuable upon the conversion of outstanding shares of our Series B Preferred Stock (“Series B Preferred”) offered by the Selling Stockholders, in each case, owned by some of our stockholders. For a list of the selling stockholders, see “Selling Stockholders.”

The selling stockholders may sell these shares from time to time in the principal market on which our common stock is traded at the prevailing market price, in negotiated transactions, or through any other means described in the section titled “Plan of Distribution.” The selling stockholders may be deemed underwriters within the meaning of the Securities Act of 1933, as amended, with respect to the shares of common stock that they are offering. We will pay the expenses of registering these shares. We will not receive any proceeds from the sale of our shares by the selling stockholders that are covered by this prospectus.

The shares are being registered to permit the selling stockholders to sell the shares from time to time in the public market. We do not know when or in what amount the selling stockholders may offer the securities for sale. The selling stockholders may sell some, all or none of the securities offered by this prospectus.

Our common stock is traded on The NASDAQ Global Market under the symbol “IOVA.” On July 28, 2017, the last reported sale price of our common stock as reported on The NASDAQ Global Market was \$5.80.

You should understand the risks associated with investing in our common stock. Before making an investment, read the “Risk Factors” section on page 4 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2017

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed on behalf of the selling stockholders with the SEC to permit the selling stockholders to sell the shares described in this prospectus in one or more transactions. The selling stockholders and the plan of distribution of the shares being offered by them are described in this prospectus under the headings "Selling Stockholders" and "Plan of Distribution."

As permitted by the rules and regulations of the SEC, the registration statement filed by us includes additional information not contained in this prospectus. You may read the registration statement and the other reports we file with the SEC at the SEC's web site or its offices described below under the heading "Where You Can Find More Information."

You should rely only on the information that is contained in this prospectus or that is incorporated by reference into this prospectus. We and the selling stockholders have not authorized anyone to provide you with information that is in addition to or different from that contained in, or incorporated by reference into, this prospectus. If anyone provides you with different or inconsistent information, you should not rely on it.

The shares of common stock offered by this prospectus are not being offered in any jurisdiction where the offer or sale of such common stock is not permitted. You should not assume that the information contained in, or incorporated by reference into, this prospectus is accurate as of any date other than the date of this prospectus or, in the case of the documents incorporated by reference, the date of such documents, regardless of the date of delivery of this prospectus or any sale of the common stock offered by this prospectus. Our business, financial condition, liquidity, results of operations and prospects may have changed since those dates.

PROSPECTUS SUMMARY

This summary highlights selected information about us contained elsewhere in this prospectus or incorporated by reference in this prospectus; it does not contain all of the information you should consider before investing in our common stock. This prospectus includes or incorporates by reference information about the common stock being offered by the selling stockholder, as well as information regarding our business and industry and detailed financial data. You should read the entire prospectus and the information incorporated by reference herein before making an investment decision. This prospectus includes forward-looking statements that involve risks and uncertainties. See “Cautionary Note Regarding Forward-Looking Statement” for more information.

Throughout this prospectus, the terms “Iovance,” “we,” “us,” “our,” and “our company” refer to Iovance Biotherapeutics, Inc., a Delaware corporation.

OUR COMPANY

Overview

We are a clinical-stage biopharmaceutical company focused on the development and commercialization of novel cancer immunotherapy products designed to harness the power of a patient’s own immune system to eradicate cancer cells. Our lead program is an adoptive cell therapy utilizing tumor-infiltrating lymphocytes (TIL), which are T cells derived from patients’ tumors, for the treatment of metastatic melanoma.

A patient’s immune system, particularly their TIL, plays an important role in identifying and killing cancer cells. TIL consist of a polyclonal population of T cells that can recognize a wide variety of cancer-specific mutations. TIL therapy involves growing a patient’s TIL in special culture conditions outside the patient’s body, or ex vivo, and then infusing the T cells back into the patient followed by infusion of six doses of interleukin-2 (IL-2). By expanding a patient’s TIL ex vivo, away from the immune-suppressive tumor microenvironment, the T cells rapidly proliferate. As a result, billions of TIL, when infused back into the patient, are better able to search out and potentially eradicate the tumor.

We have an on-going Phase 2 clinical trial of our lead autologous TIL product candidate, LN-144, comprising TIL therapy for the treatment of metastatic melanoma. This three-arm study is enrolling patients with melanoma whose disease has progressed following prior anti-PD-1 therapy. The trial opened for enrollment during the second half of 2015 and is being conducted at ten sites, with additional sites expected to open in the second half of 2017. The purpose of the study is to evaluate the efficacy and safety of LN-144. The trial’s primary objective is to characterize the efficacy of LN-144. Secondary outcome measures efficacy of the LN-144 includes objective response and complete response rates as well as safety. Additional secondary or exploratory endpoints are included as well. Interim results from cohort 1 of this study were presented as a poster at the American Society of Clinical Oncology (ASCO) Annual Meeting in 2017.

During 2015, we received orphan drug designation for LN-144 in the United States to treat metastatic melanoma. This designation provides seven years of market exclusivity in the United States, subject to certain limited exceptions. However, the orphan drug designation does not convey any advantage in or shorten the duration of the regulatory review or approval process.

We are pursuing metastatic melanoma as our first target indication because of the promising initial results in this indication generated by Dr. Steven Rosenberg, M.D., Ph.D., Chief of the Surgery Branch of the National Cancer Institute (NCI) and the commercial opportunity inherent in the significant unmet need of this patient population. Melanoma is a common type of skin cancer, accounting for approximately 87,110 patients expected to be diagnosed in the US and 9,730 expected deaths in the United States according to the American Cancer Society’s Cancer Estimated 2017 Facts and Figures. According to the NCI’s Surveillance, Epidemiology and End Results (SEER) program, about 2-5% of patients with melanoma have metastatic disease. Patients with metastatic melanoma following treatment under the current standards of care have a particularly dire prognosis with very few curative treatment options.

In addition to our ongoing trial in metastatic melanoma, we have initiated clinical trials of TIL therapy in two additional cancer indications in 2017, cervical cancer and head and neck cancer. We plan to initiate additional indications by the company as well as through collaborations which may include glioblastoma, pancreatic cancer, ovarian cancer, several types of sarcomas, and lung.

Recent Developments

Since the beginning of 2016, a number of significant developments have occurred, including the following:

- We submitted an Investigational New Drug Application to conduct studies in cervical and head and neck cancer, opened sites in both head and neck and cervical cancer studies, treated our first patient in the head and neck cancer study, and are recruiting patients for the cervical cancer study.
- We have treated our first patient in our multicenter, Phase 2 clinical study of TIL therapy in melanoma using our generation 2 manufacturing process.
- We hired a new Chief Executive Officer and Chief Scientific Officer.
- We raised \$100 million in funding through the sale of equity in a private placement.
- We entered into a five-year extension of our Cooperative Research and Development Agreement (the “CRADA”) with the National Cancer Institute (the “NCI”).
- We entered into an exclusive license agreement with PolyBioCept AB and a related clinical trials agreement with the Karolinska University Hospital.
- We presented TIL technology data in four posters at the Society for Immunotherapy of Cancer (SITC) Annual Meeting.
- We presented interim results from our multicenter, Phase 2 clinical study of TIL therapy in melanoma at the 2017 ASCO Annual Meeting.
- We entered into a new three-year manufacturing agreement with WuXi Apptech, Inc.
- We entered into a new three-year manufacturing agreement with Lonza Walkersville, Inc .
- We entered into a new three-year manufacturing agreement with PharmaCell B.V.
- We entered into a new sponsored research agreement and two new clinical grant agreements with the H. Lee Moffitt Cancer Center and Research Institute.
- We entered into a strategic alliance agreement with the University of Texas M.D. Anderson Cancer Center to explore investigator-sponsored trials using TIL therapy, including a trial in which the Company will manufacture the TIL product.
- We grew from 20 employees at the beginning of 2016 to over 60 employees as of June 30, 2017.
- We moved our corporate headquarters from New York, New York to San Carlos, California.

Company History

We filed our original certificate of incorporation with the Secretary of State of Nevada on September 17, 2007. Until March 2010, we were an inactive company known as Freight Management Corp. On March 15, 2010, we changed our name to Genesis Biopharma, Inc. and in 2011 we commenced our current business. On June 1, 2017, we changed our state of incorporation from Nevada to Delaware (the “Reincorporation”) pursuant to a plan of conversion dated June 1, 2017. Upon the effectiveness of the Reincorporation, among other matters, our internal affairs became subject to the General Corporation Law of the State of Delaware, the certificate of incorporation we filed in Delaware, and our new bylaws. Upon the Reincorporation, each outstanding share of our common stock and preferred stock was converted into one share of common stock and one share of preferred stock, respectively, of Lion Biotechnologies, Inc., the Delaware corporation.

On June 27, 2017, we changed our corporate name to Iovance Biotherapeutics, Inc. by filing an amendment to our certificate of incorporation with the Secretary of State of the State of Delaware.

Our principal executive offices are located at 999 Skyway Road, Suite 150, San Carlos, California, 94070, and our telephone number at that address is (650) 260-7120. Our website is located at www.iovance.com. Information on our website is not, and should not be considered, part of this prospectus.

June 2016 Private Placement

On June 2, 2016, we entered into a securities purchase agreement with various institutional and individual accredited investors in connection with a \$100 million private placement completed on June 7, 2016. In the private placement, we issued (i) 9,684,000 shares of our common stock and (ii) 11,368,633 shares of Series B Preferred. The shares of common stock and Series B Preferred were sold for \$4.75 per share. The shares of Series B Preferred were not, when issued, convertible into common stock and, except as required by law, were non-voting. We agreed in the securities purchase agreement to file a proxy statement with the SEC with respect to a stockholders meeting that would include a proposal to permit the Series B Preferred to become convertible into shares of our common stock and to permit the issuance of shares of common stock upon such conversion. The definitive proxy statement was filed with the SEC on July 7, 2016. At a stockholders meeting held on August 16, 2016, our stockholders approved the proposal, and our Series B Preferred became convertible into shares of common stock at an initial conversion price of \$4.75 per share. Accordingly, all outstanding shares of Series B Preferred are now convertible into shares of our common stock.

We filed the registration statement of which this prospectus is a part to fulfill certain of our contractual obligations to the investors in the private placement under a registration rights agreement we entered into pursuant to the securities purchase agreement.

THE OFFERING

Common Stock offered by the selling stockholders	20,769,034 shares
Common Stock offered by us	None
Common Stock currently outstanding	62,680,390 shares(1)
Common Stock to be outstanding after the offering	70,627,063 shares(2)
NASDAQ Global Market Symbol	IOVA
Use of proceeds	We will not receive any proceeds from the sale of the common stock offered hereby.
Risk Factors	An investment in our common stock involves significant risks. See "Risk Factors" beginning on page 4.

(1) As of June 30, 2017, and does not include (i) a total of 13,452,213 restricted stock units and shares of common stock issuable upon the exercise of outstanding options (with exercise prices ranging from \$4.54 to \$117.00 per share) and warrants (with exercise prices ranging from \$2.50 to \$2.51, (ii) 847,000 shares of common stock issuable upon the conversion of our Series A Convertible Preferred Stock ("Series A Preferred") or (iii) 7,946,673 shares of common stock issuable upon the conversion of our outstanding shares of Series B Preferred.

(2) Assumes the conversion of all shares of our Series B Preferred. Of the 11,368,633 Series B Preferred originally issued, 7,946,673 remain outstanding and convertible into common stock as of June 30, 2017. Does not include (i) a total of 13,452,213 restricted stock units and shares of common stock issuable upon the exercise of outstanding options (with exercise prices ranging from \$4.54 to \$117.00 per share) and warrants (with exercise prices ranging from \$2.50 to \$2.51, or (ii) 847,000 shares of common stock issuable upon the conversion of our Series A Preferred.

RISK FACTORS

Investing in our common stock involves certain risks. Before you decide whether to purchase any shares of our common stock, in addition to the other information in this prospectus, you should carefully consider the risks described under the heading “Risk Factors” in our most recent Annual Report on Form 10-K and Quarterly Report on Form 10-Q, which are incorporated by reference into this prospectus, as such risk factors may be updated from time to time by our future filings with the SEC. If one or more of these risks materializes, our business, financial condition and results of operations may be adversely affected. In that event, the value of our common stock could decline. The risks that are described in this prospectus or in any document that is incorporated by reference into this prospectus are not the only risks that we face. Additional risks not presently known to us or that we currently believe to be immaterial may also adversely affect our business, financial condition and results of operations.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements which relate to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results to be materially different from any future results expressed or implied by the forward-looking statements. In some cases, you can identify forward-looking statements by the use of words such as “believe,” “anticipate,” “intend,” “plan,” “estimate,” “may,” “could,” “anticipate,” “predict,” or “expect” and similar expressions. You should not place undue reliance on forward-looking statements since they involve known and unknown risks, uncertainties and other factors that are, in many cases, beyond our control. Forward-looking statements are not guarantees of future performance. Actual events or results may differ materially from those discussed in the forward-looking statements as a result of various factors. Except as required by applicable law, we do not undertake any obligation to publicly update any forward-looking statements, whether as a result of new information, future developments or otherwise. Important factors that could cause actual results to differ materially from those reflected in our forward-looking statements include, among others:

- our inability to obtain regulatory approval for, or successfully commercialize, our leading product candidate, LN-144, or our other product candidates;
- difficulty in enrolling patients in our clinical trials and uncertainty of clinical trial results;
- our history of operating losses and inability to become profitable;
- uncertainty and volatility in the price of our common stock;
- the costs and effects of existing and potential governmental investigations and litigation;
- our inability to meet the continued listing requirements of The NASDAQ Global Market;
- our inability to implement and maintain appropriate internal controls;
- uncertainty as to our employees’ and independent contractors’ compliance with regulatory standards and requirements and securities insider trading rules;
- dependence on the efforts of third parties to conduct and oversee our clinical trials for our product candidates, to manufacture clinical supplies of our product candidates and to commercialize our product candidates;
- the effect of government regulations on our business;
- a loss of any of our key management personnel;
- our inability to secure and maintain relationships with collaborators and contract manufacturers;
- our inability to develop or commercialize our product candidates due to intellectual property rights held by third parties and our inability to protect the confidentiality of our trade secrets; and

our potential inability to access capital required to fund proposed operations.

All written and verbal forward-looking statements attributable to us or any person acting on our behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. We caution investors not to rely too heavily on the forward-looking statements we make or that are made on our behalf. We undertake no obligation, and specifically decline any obligation, to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

In addition, you should refer to the section of this prospectus entitled “Risk Factors” for a discussion of other important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. As a result of these factors, we cannot assure you that the forward-looking statements in this prospectus will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all.

USE OF PROCEEDS

We will not receive any proceeds from the sale of the common stock by the selling stockholders pursuant to this prospectus. All proceeds from the sale of the shares will be for the account of the selling stockholders. The selling stockholders may sell these shares in the market or otherwise, at market prices prevailing at the time of sale, at prices related to the prevailing market price, or at negotiated prices.

SELLING STOCKHOLDERS

Selling Stockholders Table

This prospectus covers an aggregate of 20,769,034 shares of our common stock, consisting of (i) 12,822,361 outstanding shares of common stock and (ii) 7,946,673 shares issuable upon conversion of the Series B Preferred. The foregoing outstanding shares of common stock and Series B Preferred were issued under the securities purchase agreement in the June 2016 private placement.

We are registering the foregoing shares of common stock in accordance with the terms of a registration rights agreement we entered into with the selling stockholders as part of the private placement in order to permit the selling stockholders to offer such shares of common stock for resale from time to time. The selling stockholders may from time to time offer and sell pursuant to this prospectus any or all of the below listed shares of common stock owned by them. The registration of these shares does not require that any of the shares be offered or sold by the selling stockholders. The selling stockholders may from time to time offer and sell all or a portion of their shares on the open market, in negotiated transactions, or otherwise, at prices then prevailing or related to the then current market price or at negotiated prices.

The registered shares may be sold directly or through brokers or dealers, or in a distribution by one or more underwriters on a firm commitment or best efforts basis. To the extent required, the names of any agent or broker-dealer and applicable commissions or discounts and any other required information with respect to any particular offer will be set forth in a prospectus supplement. Please see “Plan of Distribution.” The selling stockholders and any agents or broker-dealers that participate with the selling stockholders in the distribution of registered shares may be deemed to be “underwriters” within the meaning of the Securities Act of 1933, as amended (the “Securities Act”), and any commissions received by them and any profit on the resale of the registered shares may be deemed to be underwriting commissions or discounts under the Securities Act.

No estimate can be given as to the amount or percentage of common stock that will be held by the selling stockholders after any sales made pursuant to this prospectus because the selling stockholders are not required to sell any of the shares being registered under this prospectus. The table below assumes that the selling stockholders will sell all of the shares listed in this prospectus.

Additional selling security holders not named in this prospectus will not be able to use this prospectus for resales until they are named in the table below by prospectus supplement or post-effective amendment. Transferees, successors and donees of identified selling stockholders will not be able to use this prospectus for resales until they are named in the table below by prospectus supplement or post-effective amendment. If required, we will add transferees, successors and donees by prospectus supplement in instances where the transferee, successor or donee has acquired its shares from holders named in this prospectus after the effective date of this prospectus.

The following table sets forth as of June 30, 2017 the beneficial ownership of the selling stockholders as reported to us by the selling stockholders. The term “selling stockholder” or “selling stockholders” includes the stockholders listed below and their respective transferees, assignees, pledges, donees or other successors. Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities. Shares of common stock subject to options, warrants and convertible securities currently exercisable or convertible, or exercisable or convertible within 60 days of June 30, 2017 are deemed outstanding, including for purposes of computing the percentage ownership of the person holding the option, warrant or convertible security, but not for purposes of computing the percentage of any other holder. Since the shares of Series B Preferred are convertible at any time, and from time to time, by the selling stockholders, except as described below, the shares of common stock issuable upon the conversion of the Series B Preferred are included in the number shares beneficially owned by the selling stockholders.

	Beneficial Ownership Before Offering			Beneficial Ownership After Offering ⁽¹⁾	
	Number of Shares	Percent	Number of Shares Being Offered	Number of Shares	Percent
OrbiMed Partners Master Fund Limited	2,302,100(2)(3)	3.67%	2,302,100	0	0
OrbiMed Partners II, LP	1,908,426(4)(5)	3.04%	1,908,426	0	0
Quogue Capital LLC	5,778,947(6)	8.93%	3,578,947	3,277,938	4.99%
Franklin Templeton Investment Funds - Franklin Biotechnology					
Discovery Fund	2,196,079(7)	3.50%	914,779	1,281,300	1.94%
Franklin Strategic Series - Franklin Biotechnology Discovery					
Fund	1,378,100(7)	2.20%	547,400	830,700	1.73%
Franklin Strategic Series - Franklin Small Cap Growth Fund	1,422,800(7)	2.27%	1,169,400	253,400	*
Broadfin Healthcare Master Fund, Ltd.	3,127,751(8)	4.99%	2,086,589	2,940,319	4.64%
BlackRock Health Sciences Master Unit Trust	29,448(9)	*	22,848	6,600	*
BGF World Healthscience Fund	630,188(9)	1.01%	630,188	0	0
BlackRock Health Sciences Trust	62,723(9)	*	56,423	6,300	*
BlackRock Health Sciences Opportunities Portfolio, a Series of					
BlackRock Funds	1,140,378(9)	1.82%	1,140,378	0	0
Perceptive Life Sciences Master Fund Ltd.	4,753,414(10)	7.54%	1,684,211	3,069,203	4.87%
Frazier Life Sciences VIII, LP	2,188,331(11)	3.49%	1,684,211	504,120	*
venBio Select Fund LLC	4,662,352(12)	7.38%	1,347,368	3,314,984	5.24%
QVT Fund V LP	917,835(13)(14)	1.46%	785,967	131,868	*
QVT Fund IV LP	206,460(13)(15)	*	176,797	29,663	*
Quintessence Fund L.P.	104,946(13)(16)	*	89,868	15,078	*
Acuta Capital Fund, LP	2,522,228(17)(18)	(21)	328,421	2,193,807	(22)
Acuta Opportunity Fund, LP	662,500(17)(19)	(21)	101,052	561,448	(22)
2B LLC (as managed by Acuta Capital Partners, LLC)	719,015(17)(20)	(21)	66,291	652,724	(22)
2B LLC (as managed by venBio Select Advisor LLC)	227,952(12)(23)	*	21,053	206,899	*
Michael Weiser	102,632(24)	*	52,632	50,000	*
Jason Stein	152,632(25)	*	52,632	100,000	*
Mark Van Hoof	21,053	*	21,053	0	0

* Less than 1%

- Assumes the selling stockholder sells all of the shares of common stock included in this prospectus.
- Shares of the Company are held by OrbiMed Partners Master Fund Limited (“OP Master”). OrbiMed Capital LLC (“Capital”) is the investment adviser for OP Master. Samuel D. Isaly (“Isaly”) is the managing member of, and owns a controlling interest in, Capital. Each of Capital and Isaly disclaims beneficial ownership of the shares held by OP Master, except to the extent of its or his pecuniary interest therein, if any.
- Includes 1,243,000 shares of common stock issuable upon conversion of Series B Preferred.
- Shares of the Company are held by OrbiMed Partners II, L.P. (“OP II”). OrbiMed Advisors LLC (“Advisors”) is the general partner of OP II. Samuel D. Isaly (“Isaly”) is the managing member of, and owns a controlling interest in, Advisors. Each of Advisors and Isaly disclaims beneficial ownership of the shares held by OP II, except to the extent of its or his pecuniary interest therein, if any.
- Includes 1,030,726 shares of common stock issuable upon conversion of Series B Preferred.
- The number of shares beneficially owned before the offering consists of 3,846,280 shares of our common stock and 1,932,667 shares of our common stock issuable upon conversion of Series B Preferred owned by Quogue Capital LLC and does not include up to 2,000,000 shares of our common stock issuable upon the exercise of a warrant (which warrant cannot be exercised if such exercise would result in the holder beneficially owning more than 4.99% of our shares of common stock) owned by Quogue Capital LLC. Under the terms of the warrant, the holder does not have the right to exercise the warrant to the extent that after giving effect to such exercise, the holder (together with its affiliates) would beneficially own in excess of 4.99% (the “Maximum Percentage”) of the shares of our common stock outstanding immediately after giving effect to such exercise. By written notice to us, however, the holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 9.99%. The number of shares beneficially owned after the offering consists of 2,200,000 shares of our common stock owned by Quogue Capital LLC and 1,077,983 shares of our common stock issuable upon exercise such warrant. Wayne Rothbaum, a member of our board of directors, is the sole managing member of Quogue Capital LLC and may be deemed to beneficially own the shares owned by Quogue Capital LLC.

- (7) The common stock owned by these funds may be deemed to be beneficially owned by Franklin Advisers, Inc. (“FAV”) for purposes of Rule 13d-3 under the Securities Exchange Act of 1934 (the “Act”) in its capacity as the investment adviser to the Funds pursuant to investment management contracts that grant investment and/or voting power to FAV. When an investment management contract (including a sub-advisory agreement) delegates to FAV investment discretion or voting power over the securities held in the investment advisory accounts that are subject to that agreement, Franklin Resources, Inc. (“FRI”) treats FAV as having sole investment discretion or voting authority, as the case may be, unless the agreement specifies otherwise. According, FAV reports on Schedule 13D that it has sole investment discretion and voting authority over the securities covered by any such investment management agreement. As a result for purposes of Rule 12d-3 under the Act, FAV may be deemed to be the beneficial owner of such securities. Beneficial ownership by FRI, FAV and their affiliates is being reported in conformity with the guidelines articulated by the SEC staff in Release No. 34-39538 (January 12, 1998) relating to organizations, such as FRI, where related entities exercise voting and investment powers over the securities being reported independently from each other. The voting and investment powers held by Franklin Mutual Advisors, LLC (“FMA”), and indirect wholly-owned investment manager subsidiary of FRI, are exercised independently from FRI and from all other investment management subsidiaries of FRI (FRI, its affiliates and the investment management subsidiaries other than FMA are, collectively, “FRI affiliates”). Furthermore, internal policies and procedures of FMA and FRI establish information barriers that prevent the flow between FMA and the FRI affiliates of information that relates to the voting and investment powers over the securities owned by their respective investment management clients. Consequently, FMA and the FRI affiliates report the securities over which they hold investment and voting power separately from each other for purposes of Section 13 of the Act.
- (8) The number of shares beneficially owned before the offering consists of 2,276,359 shares of our common stock and does not include 750,000 shares of our common stock issuable upon the conversion of shares of Series A Preferred stock (“Series A Preferred”), 750,000 shares of our common stock issuable upon exercise of a warrant or 399,157 shares of common stock issuable upon conversion of Series B Preferred. Under the terms of this warrant, the holder does not have the right to exercise the warrant to the extent that after giving effect to such exercise, the holder (together with its affiliates) would beneficially own in excess of the Maximum Percentage of the shares of our common stock outstanding immediately after giving effect to such exercise. Similarly, under the terms of the Series A Preferred and the Series B Preferred, the holder does not have the right to convert the Series A Preferred or the Series B Preferred (subject to certain limited exceptions) to the extent that after giving effect to such conversion, the holder (together with its affiliates) would beneficially own in excess of the Maximum Percentage of the shares of our common stock outstanding immediately after giving effect to such conversion. By written notice to us, however, the holder may from time to time increase or decrease the Maximum Percentage with respect to either or both of the warrant, the Series A Preferred and the Series B Preferred to any other percentage not in excess of 9.99%. The number of shares beneficially owned after the offering consists of 1,440,319 shares of our common stock owned by Broadfin Healthcare Master Fund, Ltd and a total of 1,500,000 shares of our common stock issuable upon exercise of warrants and/or upon conversion of Series A Preferred. Kevin Kotler in his capacity as investment manager of Broadfin Health Master Fund, Ltd., may also be deemed to have investment discretion and voting power over the shares held by that selling stockholder. Mr. Kotler disclaims any beneficial ownership of these shares.
- (9) The registered holders of the referenced shares are funds and accounts under management by investment adviser subsidiaries of BlackRock, Inc. BlackRock, Inc. is the ultimate parent holding company of such investment adviser entities. On behalf of such investment adviser entities, Erin Xie, as a managing director of such entities, has voting and investment power over the shares held by the funds and accounts which are the registered holders of the referenced shares. Erin Xie expressly disclaims beneficial ownership of all shares held by such funds and accounts. The address of such funds and accounts, such investment adviser subsidiaries and Erin Xie is 60 State Street, Boston, MA 02109. Shares being registered for resale may not incorporate all shares deemed to be beneficially held by BlackRock, Inc.

- (10) Includes 97,000 shares of our common stock issuable upon the conversion of Series A Preferred, 909,491 shares of our common stock issuable upon the conversion of Series B Preferred and 390,300 shares of our common stock issuable upon exercise of a warrant. Under the terms of this warrant, the holder does not have the right to exercise the warrant to the extent that after giving effect to such exercise, the holder (together with its affiliates) would beneficially own in excess of the Maximum Percentage. Similarly, under the terms of the Series A Preferred and the Series B Preferred, the holder does not have the right to convert the Series A Preferred or the Series B Preferred to the extent that after giving effect to such conversion, the holder (together with its affiliates) would beneficially own in excess of the Maximum Percentage. By written notice to us, however, the holder may from time to time increase or decrease the Maximum Percentage with respect to any or all of the warrants, the Series A Preferred and the Series B Preferred to any other percentage not in excess of 9.99%. We have received such a notice from this holder and accordingly, this holder may exercise any portion of the warrant or convert any shares of Series A Preferred or the Series B Preferred up until the point that the holder's beneficial ownership equals 9.99%. Perceptive Advisors LLC is the advisor of Perceptive Life Sciences Master Fund Ltd. Perceptive Advisors LLC and Joseph Edelman claim shared voting power and shared dispositive power over shares held by Perceptive Life Sciences Master Fund Ltd. Mr. Edelman is the managing member of Perceptive Advisors LLC.
- (11) The general partner of Frazier Life Sciences VIII, LP, is FHM Life Sciences VIII, LP, a Delaware limited partnership ("FHM VIII LP"). The general partner of FHM VIII LP is FHM Life Sciences VIII, LLC ("FHM VIII LLC"). Patrick Heron and James Topper are the sole members of FHM VIII, LLC and in that capacity share voting and dispositive power over all shares held by Frazier Life Sciences VIII, LP. Mr. Heron and Mr. Topper disclaim beneficial ownership of these securities other than to the extent of their pecuniary interest in FHM VIII LP.
- (12) The numbers of shares beneficially owned before the offering does not include 525,000 shares of our common stock issuable upon exercise of a warrant. Under the terms of this warrant, the holder does not have the right to exercise the warrant to the extent that after giving effect to such exercise, the holder (together with its affiliates) would beneficially own in excess of the Maximum Percentage of the shares of our common stock outstanding immediately after giving effect to such exercise. By written notice to us, however, the holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 9.99%. venBio Select Fund LLC also manages an investment account on behalf of 2B LLC and may also be deemed to have investment discretion and voting power over the 227,952 shares held by 2B LLC but does not have voting or investment power over the shares held by 2B LLC managed by Acuta Capital described in footnote 17 below. Behzad Aghazadeh, in his capacity as portfolio manager of venBio Select Fund LLC may also be deemed to have investment discretion and voting power over securities held by venBio Select Fund LLC and the 2B LLC managed account. Mr. Aghazadeh disclaims any beneficial ownership of the reported securities
- (13) QVT Associates GP LLC is the general partner of QVT Fund IV LP, QVT Fund V LP and Quintessence Fund L.P. (together with QVT Fund IV LP, and QVT Fund V LP, the "Funds"). QVT Financial LP is the investment manager for the Funds and therefore may be deemed the beneficial owner of the common stock held by the Funds. QVT Financial GP LLC is the general partner of QVT Financial LP and therefore may be deemed the beneficial owner of common stock beneficially owned by QVT Financial LP. Each of QVT Associates GP LLC, QVT Financial LP and QVT Financial GP LLC disclaims beneficial ownership of the reported securities except to the extent of its pecuniary interest therein.
- (14) Includes 424,430 shares of common stock issuable upon conversion of Series B Preferred.
- (15) Includes 95,472 shares of common stock issuable upon conversion of Series B Preferred.
- (16) Includes 48,530 shares of common stock issuable upon conversion of Series B Preferred.
- (17) Richard Lin is the Managing Member of Acuta Capital Partners, LLC, the general partner of Acuta Capital Fund, LP and Acuta Opportunity Fund, LP and an investment manager for 2B LLC and has voting and investment power over all of the shares held by Acuta Capital Fund, LP and Acuta Opportunity Fund, LP and 667,929 shares held by 2B LLC managed by Acuta Capital Partners, LLC but does not have voting or investment power over the shares held by 2B LLC managed by VenBio described in footnote 12 above. Mr. Lin disclaims beneficial ownership over all of the shares held by Acuta Capital Fund, LP, Acuta Opportunity Fund, LP and 2B LLC, except to the extent of his pecuniary interest therein.

- (18) Does not include 1,119,265 shares of our common stock issuable upon exercise of a warrant or 177,351 shares of common stock issuable upon conversion of the Series B Preferred. Under the terms of this warrant and the Series B Preferred, the holder does not have the right to exercise the warrant or convert the Series B Preferred to the extent that after giving effect to such exercise or conversion, the holder (together with its affiliates) would beneficially own in excess of the Maximum Percentage of the shares of our common stock outstanding immediately after giving effect to such exercise or conversion. By written notice to us, however, the holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 9.99%.
- (19) Does not include 313,532 shares of our common stock issuable upon exercise of a warrant or 54,569 shares of common stock issuable upon conversion of the Series B Preferred. Under the terms of this warrant and the Series B Preferred, the holder does not have the right to exercise the warrant or convert the Series B Preferred to the extent that after giving effect to such exercise or conversion, the holder (together with its affiliates) would beneficially own in excess of the Maximum Percentage of the shares of our common stock outstanding immediately after giving effect to such exercise or conversion. By written notice to us, however, the holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 9.99%.
- (20) Does not include 40,927 shares of common stock issuable upon conversion of the Series B Preferred. Under the terms of the Series B Preferred, the holder does not have the right to convert the Series B Preferred to the extent that after giving effect to such conversion, the holder (together with its affiliates) would beneficially own in excess of the Maximum Percentage of the shares of our common stock outstanding immediately after giving effect to such conversion. By written notice to us, however, the holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 9.99%.
- (21) The combined total beneficial ownership of Acuta Capital Fund, LP, Acuta Opportunity Fund, LP and 2B LLC (as managed by Acuta Capital Partners, LLC) (which beneficial ownership does not currently include any shares issuable upon exercise of warrants or conversion of Series B Preferred as described above in footnotes (18), (19) and (20)), is 6.22%. As described above, none of the warrants or Series B Preferred can be exercised or converted if as a result thereof the holder (together with its affiliates) would own in excess of the Maximum Percentage, unless a written notice to the contrary is received by the company.
- (22) The combined total beneficial ownership of Acuta Capital Fund, LP, Acuta Opportunity Fund, LP and 2B LLC (as managed by Acuta Capital Partners, LLC) (which beneficial ownership does not currently include any shares issuable upon exercise of warrants as described above in footnotes (18), (19) and (20)), will be, after the offering, 5.87%, assuming all shares offered hereby by such holders are sold. As described above, none of the warrants can be exercised if as a result thereof the holder (together with its affiliates) would own in excess of the Maximum Percentage, unless a written notice to the contrary is received by the company.
- (23) Includes 11,369 shares of common stock issuable upon conversion of Series B Preferred. J. Darius Bikoff, a Member of 2B LLC, has voting and investment control over all the shares held by 2B LLC that are managed by venBio. Mr. Bikoff disclaims beneficial ownership over all the shares held by 2B LLC, except to the extent of his pecuniary interest therein.
- (24) Includes 25,000 shares of our common stock issuable upon exercise of a warrant.
- (25) Includes 50,000 shares of our common stock issuable upon exercise of a warrant.

The information in the above table is as of the date of this prospectus. Information concerning the selling stockholders may change from time to time and any such changed information will be described in supplements to this prospectus if and when necessary.

The information in the above table is as of the date of this prospectus. Information concerning the selling stockholders may change from time to time and any such changed information will be described in supplements to this prospectus if and when necessary.

Relationships With Selling Stockholders

On November 5, 2013, we completed a private placement in which we issued (i) 3,145,300 shares of our common stock, (ii) 17,000 shares of our Series A Preferred, and (iii) warrants to purchase a total of 11,645,300 shares of common stock (the "2013 private placement"). The purchase price of each common stock/warrant unit was \$2.50, and the purchase price of each Series A Preferred/warrants unit was \$1,000. Quogue Capital LLC, Broadfin Healthcare Master Fund, Ltd., Perceptive Life Sciences Master Fund Ltd., venBio Select Fund LLC, Acuta Opportunity Fund, LP (formerly Three Arch Opportunity Fund), Michael Weiser and Jason Stein, and some of their affiliates, who were investors in the 2013 private placement, also purchased shares in the private placement.

In connection with our June 2016 private placement, we entered into a securities purchase agreement and a registration rights agreement with Quogue Capital LLC (an affiliate of Wayne P. Rothman, a member of our Board of Directors) and the other institutional and accredited investors in that offering. The securities purchase agreement included certain provisions requiring that the number of directors constituting the full Board of Directors of our company be increased from five to seven directors and that Mr. Rothbaum be appointed to serve on our Board of Directors. On June 1, 2016, our Board was increased to seven directors, and on June 7, 2016 Mr. Rothbaum joined our Board. In the securities purchase agreement, we also agreed to appoint Iain Dukes to the Board of Directors effective as of a future date, and that, until the earlier of (i) the date Quogue Capital LLC, an affiliate of Mr. Rothbaum, beneficially owns less than 5% of our outstanding common stock, and (ii) June 30, 2017, which we refer to as the "effective period," we will take no other action to (x) change the size of our Board, (y) amend, in any respect, our certificate of incorporation or bylaws, or (z) enter into any agreement to do any of the foregoing, in each case, without the prior written consent of Quogue Capital. We also agreed that, during the effective period, either Mr. Rothbaum or Dr. Dukes would be appointed to the Compensation Committee, Audit Committee and Nominating and Governance Committee of our Board of Directors. Dr. Dukes was appointed to our Board on August 4, 2016. On August 16, 2016, Mr. Rothbaum was appointed to our Compensation Committee, and Dr. Dukes was appointed to our Nominating and Governance Committee and our Audit Committee.

Quogue Capital purchased 1,646,280 shares of our common stock and 1,932,667 shares of our Series B Preferred in the private placement for a purchase price of \$17 million, and is a selling stockholder. Mr. Rothbaum is the sole manager of Quogue Capital.

On August 4, 2016, Iain Dukes joined OrbiMed Advisors LLC as a consultant to OrbiMed's private equity branch. Dr. Dukes does not have any investment or voting control over any securities owned or controlled by OrbiMed Advisors LLC or by any of the other OrbiMed entities listed as selling stockholders.

PLAN OF DISTRIBUTION

The selling stockholders, which, as used herein, includes donees, pledgees, transferees or other successors-in-interest selling shares of common stock or interests in shares of common stock received after the date of this prospectus from a selling stockholder as a gift, pledge, partnership distribution or other transfer, may, from time to time, sell, transfer or otherwise dispose of any or all of their shares of common stock or interests in shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices.

The selling stockholders may use any one or more of the following methods when disposing of shares or interests therein:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales effected after the date the registration statement of which this prospectus is a part is declared effective by the SEC;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted by applicable law.

The selling stockholders may, from time to time, pledge or grant a security interest in some or all of the shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock, from time to time, under this prospectus, or under an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer the shares of common stock in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of our common stock or interests therein, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling stockholders may also sell shares of our common stock short and deliver these securities to close out their short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The aggregate proceeds to the selling stockholders from the sale of the common stock offered by them will be the purchase price of the common stock less discounts or commissions, if any. Each of the selling stockholders reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of common stock to be made directly or through agents. We will not receive any of the proceeds from this offering.

The selling stockholders also may resell all or a portion of the shares in open market transactions in reliance upon Rule 144 under the Securities Act, provided that they meet the criteria and conform to the requirements of that rule.

The selling stockholders and any underwriters, broker-dealers or agents that participate in the sale of the common stock or interests therein may be “underwriters” within the meaning of Section 2(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act. Selling stockholders who are “underwriters” within the meaning of Section 2(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act.

To the extent required, the shares of our common stock to be sold, the names of the selling stockholders, the respective purchase prices and public offering prices, the names of any agents, dealer or underwriter, any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

In order to comply with the securities laws of some states, if applicable, the common stock may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the common stock may not be sold unless it has been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

We have advised the selling stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of the selling stockholders and their affiliates. In addition, to the extent applicable we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

We have agreed to indemnify the selling stockholders against liabilities, including liabilities under the Securities Act and state securities laws, relating to the registration of the shares offered by this prospectus.

We have agreed with the selling stockholders to keep the registration statement of which this prospectus constitutes a part effective until the earlier of (1) such time as all of the shares covered by this prospectus have been disposed of pursuant to and in accordance with the registration statement or (2) the date on which all of the shares may be sold without restriction pursuant to Rule 144 of the Securities Act.

DESCRIPTION OF SECURITIES

The following is a summary of all material characteristics of our capital stock as set forth in our certificate of incorporation and bylaws. Copies of these documents are filed or incorporated by reference as exhibits to the registration statement of which this prospectus forms a part.

We are presently authorized to issue 150,000,000 shares of \$0.000041666 par value common stock, of which 62,680,390 shares were issued and outstanding as of June 30, 2017, and 50,000,000 shares of \$0.001 par value preferred stock, of which 17,000 shares have been designated as Series A Convertible Preferred Stock, or Series A Preferred, and 11,500,000 shares are designated as Series B Preferred Stock, or Series B Preferred. As of June 30, 2017, there were outstanding 1,694 Series A Preferred shares and 7,946,673 Series B Preferred shares. There is no other series of shares of our preferred stock currently authorized.

Common Stock

Holders of our common stock are entitled to one vote per share on all matters to be voted upon by selling stockholders and do not have cumulative voting rights in the election of directors. Holders of our common stock are entitled to receive on a pro rata basis such dividends, if any, as may be declared from time to time by our board of directors in its discretion from funds legally available for that use, subject to any preferential dividend rights of outstanding preferred stock. They are also entitled to share on a pro rata basis in any distribution to our common stockholders upon our liquidation, dissolution or winding up, subject to the prior rights of any outstanding preferred stock. Common stockholders do not have preemptive rights to subscribe to any additional stock issuances by us, and they do not have the right to require the redemption of their shares or the conversion of their shares into any other class of our stock. The rights, preferences and privileges of holders of common stock are subject to, and may be adversely affected by, the rights of the holders of any series of preferred stock that we may designate and issue in the future.

Preferred Stock

Under our certificate of incorporation, our board of directors has the authority, without further action by our stockholders, to designate one or more series of preferred stock and to fix the voting powers, designations, preferences, limitations, restrictions and relative rights granted to or imposed upon the preferred stock, including dividend rights, conversion rights, voting rights, rights and terms of redemption, liquidation preference and sinking fund terms, any or all of which may be preferential to or greater than the rights of the common stock.

Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of the common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in our control and may adversely affect the market price of the common stock and the voting and other rights of the holders of common stock.

Series A Convertible Preferred Stock

The following is a summary of the rights of the Series A Preferred as set forth in the Certificate of Designations of Rights, Preferences and Privileges of the Series A Preferred (the "Certificate of Designations of Series A Preferred") made part of our certificate of incorporation.

The Series A Preferred may, at the option of the holder, be converted at any time or from time to time into shares of our common stock at the conversion price in effect at the time of conversion, except that, subject to certain exceptions, no holder of Series A Preferred may convert the Series A Preferred if, after giving effect to the conversion, the holder and all affiliated persons would own beneficially more than 4.99% of our common stock (subject to adjustment to up to 9.99% solely at the holder's discretion upon 61 days' prior notice to us). The number of shares into which Series A Preferred shares are convertible is determined by dividing the stated value of \$1,000 per Series A Preferred share by the conversion price of \$2.00, which is subject to appropriate adjustment for certain events, including stock splits, stock dividends, combinations, recapitalizations or other recapitalizations affecting the common stock.

The Series A Preferred will automatically be converted into common stock at the then applicable conversion price (i) upon the written consent of the holders of a majority of the outstanding shares of Series A Preferred or (ii) if required by us to be able to list our common stock on a national securities exchange, subject to the beneficial ownership conversion limitations set forth above.

Except as otherwise required by law, the holders of shares of Series A Preferred do not have the right to vote on matters that come before the selling stockholders; provided, that we may not, without the prior written consent of a majority of the outstanding Series A Preferred: (i) amend, alter, or repeal any provision of our certificate of incorporation (including the Certificate of Designations of Series A Preferred) or bylaws in a manner adverse to the Series A Preferred; (ii) create or authorize the creation of or issue any other security convertible into or exercisable for any equity security, having rights, preferences or privileges senior to or on parity with the Series A Preferred, or increase the authorized number of shares of Series A Preferred; or (iii) enter into any agreement with respect to any of the foregoing.

In the event of any dissolution or winding up of our company, whether voluntary or involuntary, the proceeds would be paid *pari passu* among the holders of shares of our common stock, Series A Preferred and Series B Preferred, pro rata based on the number of shares held by each such holder, treating for this purpose all such securities as if they had been converted to common stock.

We may not declare, pay or set aside any dividends on shares of any class or series of our capital stock (other than dividends on shares of common stock payable in shares of common stock) unless the holders of the Series A Preferred shall first receive, or simultaneously receive, an equal dividend on each outstanding share of Series A Preferred.

Series B Preferred Stock

The following is a summary of the rights of the Series B Preferred as set forth in the Certificate of Designations of Rights, Preferences and Privileges of the Series B Preferred (the "Certificate of Designations of Series B Preferred") made part of our certificate of incorporation:

The shares of Series B Preferred are convertible at the option of each holder at any time or from time to time into shares of our common stock, except that, subject to certain exceptions, no holder of Series B Preferred may convert the Series B Preferred if, after giving effect to the conversion, the holder and all affiliated persons would own beneficially more than 4.99% of our common stock (subject to adjustment to up to 9.99% solely at the holder's discretion upon 61 days' prior notice to us). The number of shares into which Series B Preferred shares are convertible is determined by dividing the stated value of \$4.75 per Series B Preferred share by the conversion price of \$4.75, which is subject to appropriate adjustment in the event of a stock split, stock dividend, combination or other recapitalization affecting our common stock.

Holders of a majority of the outstanding shares of Series B Preferred are entitled to elect to cause all of the outstanding shares of the Series B Preferred to be converted into shares of common stock, subject to the beneficial ownership limitations set forth above.

Except as otherwise required by law, the holders of Series B Preferred have no right to vote on matters submitted to a vote of our selling stockholders. Without the prior written consent of a majority of the outstanding shares of Series B Preferred, however, we may not: (i) amend our certificate of incorporation (including the Certificate of Designations of Series B Preferred) or other charter documents in a manner adverse to the Series B Preferred; (ii) create or authorize the creation of any other security convertible into or exercisable for any equity security ranking as to dividends, redemption or distribution of assets upon a liquidation senior to, the Series B Preferred, or increase the authorized number of shares of Series B Preferred; or (iii) enter into any agreement with respect to any of the foregoing.

In the event of the dissolution and winding up of our company, the proceeds available for distribution to our selling stockholders would be paid *pari passu* among the holders of shares of our common stock, Series A Preferred and Series B Preferred, pro rata based upon the number of shares held by each such holder, treating for this purpose all such securities as if they had been converted into our common stock.

Holders of Series B Preferred are entitled to dividends on an as-if-converted basis in the same form as any dividends actually paid on shares of our Series A Preferred or other securities. So long as any Series B Preferred remains outstanding, we may not redeem, purchase or otherwise acquire any material amount of our Series A Preferred or other securities.

Anti-Takeover Effects of Certain Charter and Bylaw Provisions and Delaware Law

The following provisions of our certificate of incorporation and bylaws could have the effect of delaying or discouraging another party from acquiring control of us and could encourage persons seeking to acquire control of us to first negotiate with our board of directors:

- our bylaws provide that a special meeting of the stockholders may be called at any time by our board, chairperson of the board, chief executive officer or president, but do not permit our stockholders to call a special meeting of stockholders;

- our bylaws provide that our board of directors will establish the authorized number of directors from time to time;
- our certificate of incorporation does not permit cumulative voting in the election of directors; and
- our certificate of incorporation permits our board of directors to determine the rights, privileges and preferences of any new series of preferred stock, some of which could impede the ability of a person to acquire control of our company.

We are subject to Section 203 of the Delaware General Corporation Law. This law prohibits a publicly held Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years following the date that the stockholder became an interested stockholder unless:

- prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding those shares owned by persons who are directors and also officers and by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or subsequent to the date of the transaction, the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines “business combination” to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of our assets involving the interested stockholder;
- in general, any transaction that results in the issuance or transfer by us of any of our stock to the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an “interested stockholder” as an entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

Registration Rights

In connection with the June 2016 private placement, we entered into a registration rights agreement in which we agreed to file with the SEC within 30 days of the closing of the private placement, a registration statement covering the resale by the purchasers of the shares of common stock purchased by them in that offering. We also agreed in the registration rights agreement to file with the SEC within 30 days of the approval of the conversion feature of the Series B Preferred, a registration statement covering the resale of the shares of our common stock issuable upon conversion of such purchasers’ shares of Series B Preferred by such holders. We also agreed to use our best efforts to have the respective registration statements declared effective as soon as practicable upon filing, but in any event within 90 days after filing. The filing of the registration statement of which this prospectus is a part satisfies our obligation to file the registration statements within the prescribed time period.

Transfer Agent

The transfer agent for our common stock is Continental Stock Transfer and Trust Company, 7 Battery Place, 8th Floor, New York, New York 10004.

DISCLOSURE OF SEC POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Our certificate of incorporation provides that, to the maximum extent permitted under applicable law, none of our directors will have any personal liability to us or our stockholders for damages for breach of fiduciary duty as a director.

Section 102(b)(7) of the Delaware General Corporation Law allows a corporation to provide in its certificate of incorporation that a director of the corporation will not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except where the director breached the duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. Our certificate of incorporation provides for this limitation of liability.

Section 145 of the Delaware General Corporation Law provides, among other things, that a Delaware corporation may indemnify any person who was, is or is threatened to be made, party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person is or was an officer, director, employee or agent of such corporation or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his or her conduct was unlawful. A Delaware corporation may indemnify any persons who were or are a party to any threatened, pending or completed action or suit by or in the right of the corporation by reason of the fact that such person is or was a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit, provided such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests, provided further that no indemnification is permitted without judicial approval if the officer, director, employee or agent is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him or her against the expenses (including attorneys' fees) which such officer or director has actually and reasonably incurred.

Our certificate of incorporation and bylaws provide for indemnification of the our officers and directors to the fullest extent permitted by the Delaware General Corporation Law.

We also have entered into indemnification agreements with our directors and certain of our officers in which we agree, among other things, to indemnify them against certain liabilities that may arise by reason of their status or service as officers or directors.

We maintain a general liability insurance policy that covers certain liabilities of our officers and directors arising out of claims based on acts or omissions in their capacities as such.

LEGAL MATTERS

TroyGould PC, Los Angeles, California, has rendered an opinion with respect to the validity of the shares of common stock covered by this prospectus. Sanford J. Hillsberg, one of our directors, is an attorney with TroyGould PC. Some of the attorneys at TroyGould PC, including Mr. Hillsberg, own shares of our common stock constituting in the aggregate less than 1% of our outstanding shares of common stock.

EXPERTS

Our financial statements as of December 31, 2016 and for the year then ended, and management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2016 incorporated by reference into this prospectus have been so incorporated in reliance on the reports of Marcum LLP, independent registered public accounting firm, upon the authority of said firm as experts in auditing and accounting.

Our financial statements as of December 31, 2015 and 2014 and for the years then ended, incorporated by reference into this prospectus have been so incorporated in reliance on the reports of Weinberg & Company, P.A., independent registered public accounting firm, upon the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement with respect to this offering of our common stock. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement, some items of which are contained in exhibits to the registration statement as permitted by the rules and regulations of the SEC. Statements contained in this prospectus as to the contents of any contract, agreement or other document are summaries of the material terms of that contract, agreement or other document. With respect to each of these contracts, agreements or other documents filed or incorporated by reference as an exhibit to the registration statement, reference is made to the exhibits for a more complete description of the matter involved. A copy of the registration statement, and the exhibits and schedules thereto, may be inspected without charge at the public reference facilities maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. Copies of these materials may be obtained by writing to the Public Reference Section of the SEC at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference facilities. The SEC maintains a website that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC. The address of the SEC's website is <http://www.sec.gov>.

We file periodic reports and other information with the SEC. Such periodic reports and other information are available for inspection and photocopying at the public reference room and website of the SEC referred to above. We maintain a website at <http://www.iovance.com>. You may access our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The information and other content contained on our website are not part of the prospectus.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus the information we have filed with the SEC. The information we incorporate by reference into this prospectus is an important part of this prospectus. Any statement in a document we incorporate by reference into this prospectus will be considered to be modified or superseded to the extent a statement contained in this prospectus or any other subsequently filed document that is incorporated by reference into this prospectus modifies or supersedes that statement. The modified or superseded statement will not be considered to be a part of this prospectus, except as modified or superseded.

We incorporate by reference into this prospectus the information contained in the documents listed below, which is considered to be a part of this prospectus:

- our Annual Report on Form 10-K for the year ended December 31, 2016 filed with the SEC on March 9, 2017;
- the information contained in our Definitive Proxy Statement on Schedule 14A for our 2017 Annual Meeting of Stockholders, as amended, filed with the SEC on April 20, 2017, to the extent incorporated by reference in Part III of the Form 10-K;
- our Quarterly Report on Form 10-Q for the quarter ended March 31, 2017 filed with the SEC on May 3, 2017;
- our Current Reports on Form 8-K filed with the SEC on March 2, 2017, March 7, 2017, March 31, 2017, April 11, 2017, April 19, 2017, April 21, 2017, May 1, 2017, May 25, 2017, June 2, 2017, June 5, 2017, June 27, 2017, and July 27, 2017, respectively; and

the description of our common stock contained in our registration statement on Form 8-A filed on February 25, 2015 pursuant to Section 12 of the Exchange Act, as amended by a Form 8-A/A filed on July 27, 2017 and including any amendment or report filed for the purpose of updating such description.

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.

Notwithstanding the foregoing, no portion of any document that is "furnished" but not "filed" in accordance with SEC rules under Exchange Act shall be deemed to be incorporated by reference into the Form S-3 Registration Statement. Any statement contained in the Form S-3 Registration Statement or in a document incorporated by reference into the Form S-3 Registration Statement will be deemed to be modified or superseded for purposes of the Form S-3 Registration Statement to the extent that a statement contained in the Form S-3 Registration Statement or in any other subsequently filed document that is incorporated by reference into the Form S-3 Registration Statement modifies or supersedes the statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of the Form S-3 Registration Statement.

You may request a copy of any of these filings from us at no cost by writing or calling our Chief Financial Officer at the following address or telephone number: Iovance Biotherapeutics, Inc., 999 Skyway Road, Suite 150, San Carlos, California 94070; Telephone: (650) 260-7120.

PROSPECTUS

IOVANCE BIOTHERAPEUTICS, INC.

20,769,034 Shares of Common Stock
Offered by the Selling Stockholders

The date of this prospectus is _____, 2017

PART II – INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

We estimate that expenses in connection with the distribution described in this registration statement (other than brokerage commissions, discounts or other expenses relating to the sale of the shares by the selling stockholders) will be as set forth below. We will pay all of the expenses with respect to the distribution, and such amounts, with the exception of the Securities and Exchange Commission registration fee, are estimates.

SEC registration fee	\$	18,254
Accounting fees and expenses		37,000
Legal fees and expenses		110,000
Printing and related expenses		10,000
Miscellaneous		1,746
Total	\$	<u>177,000</u>

Item 15. Indemnification of Directors and Officers

The registrant's certificate of incorporation provides that, to the maximum extent permitted under applicable law, none of its directors will have any personal liability to the registrant or its stockholders for damages for breach of fiduciary duty as a director.

Section 102(b)(7) of the Delaware General Corporation Law allows a corporation to provide in its certificate of incorporation that a director of the corporation will not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except where the director breached the duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. The Registrant's certificate of incorporation provides for this limitation of liability.

Section 145 of the Delaware General Corporation Law provides, among other things, that a Delaware corporation may indemnify any person who was, is or is threatened to be made, party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person is or was an officer, director, employee or agent of such corporation or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his or her conduct was unlawful. A Delaware corporation may indemnify any persons who were or are a party to any threatened, pending or completed action or suit by or in the right of the corporation by reason of the fact that such person is or was a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit, provided such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests, provided further that no indemnification is permitted without judicial approval if the officer, director, employee or agent is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him or her against the expenses (including attorneys' fees) which such officer or director has actually and reasonably incurred.

The registrant's certificate of incorporation and bylaws provide for indemnification of the registrant's officers and directors to the fullest extent permitted by the Delaware General Corporation Law.

The registrant also has entered into indemnification agreements with its directors and certain of its officers in which the registrant agrees, among other things, to indemnify them against certain liabilities that may arise by reason of their status or service as officers or directors.

The registrant maintains a general liability insurance policy that covers certain liabilities of its officers and directors arising out of claims based on acts or omissions in their capacities as such.

Item 16. Exhibits

The exhibits listed on the Exhibit Index immediately following the signature page hereto are filed herewith or incorporated by reference herein, and such exhibit list is incorporated in this Item 16 by reference.

Item 17. 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 to:

(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 the 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 the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Securities and Exchange Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement; *provided, however*, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Securities and Exchange Commission by the registrant pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in this registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of 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 securities offered therein, and the offering of the 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;

(4) That, for the purpose of determining liability under the Securities Act to any purchaser;

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of this registration statement as of the date the filed prospectus was deemed part of and included in this registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in this registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of this registration statement relating to the securities in this registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof; *provided, however*, that no statement made in a registration statement or prospectus that is part of this registration statement or made in a document incorporated or deemed incorporated by reference into this registration statement or prospectus that is a part of this registration statement will, as to a purchaser with a time of contract sale prior to such effective date, supersede or modify any statement that was made in this registration statement or prospectus that was a part of this registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
- (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) 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.

(c) 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 Securities Act of 1933 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 Securities Act of 1933 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-3 and has duly caused this Post-Effective Amendment No. 1 to Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in San Carlos, California, on July 31, 2017.

IOVANCE BIOTHERAPEUTICS, INC.

By: /s/ MARIA FARDIS
Maria Fardis
President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Post-Effective Amendment No. 1 to Registration Statement has been signed by the following persons in the capacities and on the date indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ MARIA FARDIS</u> Maria Fardis, Ph.D.	President and Chief Executive Officer and Director (Principal Executive Officer)	July 31, 2017
<u>/s/ FRANCO VALLE</u> Franco Valle	Controller (Principal Accounting Officer and Interim Principal Financial Officer)	July 31, 2017
<u>*</u> Merrill A. McPeak	Director	July 31, 2017
<u>*</u> Jay Venkatesan	Director	July 31, 2017
<u>*</u> Sanford J. Hillsberg	Director	July 31, 2017
<u>*</u> Wayne Rothbaum	Director	July 31, 2017
<u>*</u> Ryan Maynard	Director	July 31, 2017
<u>*</u> Iain Dukes	Director	July 31, 2017

* The undersigned, by signing her name hereto, does hereby execute this registration statement on behalf of the directors of Iovance Biotherapeutics, Inc. listed above pursuant to the Power of Attorney filed as Exhibit 24.1 to the registration statement.

By: /s/ MARIA FARDIS
Maria Fardis, Ph.D.
Attorney-in-Fact

EXHIBIT INDEX

Exhibit	Description
2.1	Plan of Conversion (incorporated herein by reference to Exhibit 2.1 to Registrant's Current Report on Form 8-K filed with the Commission on June 2, 2017.)
3.1	Articles of Conversion (incorporated herein by reference to Exhibit 3.1 to Registrant's Current Report on Form 8-K filed with the Commission on June 2, 2017.)
3.2	Certificate of Conversion (incorporated herein by reference to Exhibit 3.2 of Registrant's Current Report on Form 8-K filed with the Commission on June 2, 2017.)
3.3	Certificate of Incorporation of Registrant (incorporated herein by reference to Exhibit 3.3 of Registrant's Current Report on Form 8-K filed with the Commission on June 2, 2017.)
3.4	Certificate of Designations of Rights, Preferences and Privileges of Series A Convertible Preferred Stock (incorporated herein by reference to Exhibit 3.4 of Registrant's Registration Statement on Form S-3 filed with the Commission on July 31, 2017.)
3.5	Certificate of Designations of Rights, Preferences and Privileges of Series B Preferred Stock (incorporated herein by reference to Exhibit 3.5 of Registrant's Registration Statement on Form S-3 filed with the Commission on July 31, 2017.)
3.6	Certificate of Amendment of Certificate of Incorporation of Registrant (incorporated herein by reference to Exhibit 3.1 of Registrant's Current Report on Form 8-K filed with the Commission on June 27, 2017.)
3.7	Bylaws of Registrant (incorporated herein by reference to the Exhibit 3.4 to Registrant's Current Report on Form 8-K filed with the Commission on June 2, 2017).
3.8	Amendment to the Bylaws of Registrant (incorporated herein by reference to the Exhibit 3.2 to Registrant's Current Report on Form 8-K filed with the Commission on June 27, 2017).
5.1	Opinion of TroyGould PC*
10.1	Securities Purchase Agreement, dated June 2, 2016, among Lion Biotechnologies, Inc. and the Investors thereunder (incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on June 3, 2016)
10.2	Registration Rights Agreement, dated June 2, 2016, by and among Lion Biotechnologies, Inc. and the Investors thereunder (incorporated herein by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed on June 3, 2016)
23.1	Consent of Marcum LLP*
23.2	Consent of Weinberg & Co., P.A.*
23.3	Consent of TroyGould PC (included in Exhibit 5.1)
24.1	Power of Attorney**

* Filed herewith.

** Previously filed.

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

July 31, 2017

Iovance Biotherapeutics, Inc.
999 Skyway Road, Suite 150
San Carlos, California 94070

Re: Post-Effective Amendment No. 1 to Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to Iovance Biotherapeutics, Inc., a Delaware corporation (the "Company"), in connection with a Post-Effective Amendment No. 1 to Registration Statement on Form S-3, including a related prospectus (the "Registration Statement"), to be filed with the Securities and Exchange Commission (the "Commission") on or about the date of this letter, for the registration of up to 20,769,034 shares (the "Shares") of common stock of the Company, par value \$0.000041666 per share, which are being registered in connection with the proposed sale of the Shares by the selling stockholders identified therein. The Shares consist of (i) 12,822,361 currently outstanding shares of Common Stock, and (ii) 7,946,673 shares of Common Stock (the "Conversion Shares") issuable upon conversion of the Company's outstanding shares of Series B Preferred Stock. This 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 (the "Securities Act").

In connection with this letter, we have examined and relied upon originals or copies of such records, documents, certificates and other instruments as in our judgment are necessary or appropriate to enable us to render the opinions expressed below. We have also reviewed such matters of law as we considered necessary or appropriate as a basis for the opinions expressed below.

With your permission, we have made and relied upon the following assumptions, without any independent investigation or inquiry by us, and our opinions expressed below are subject to, and limited and qualified by the effect of, such assumptions: (1) all corporate records furnished to us by the Company are accurate and complete; (2) the Registration Statement to be filed by the Company with the Commission will be identical to the form of the document that we have reviewed; (3) all statements as to factual matters that are contained in the Registration Statement (including the exhibits to the Registration Statement) are accurate and complete; and (4) with respect to documents that we reviewed in connection with this letter, all documents submitted to us as originals are authentic; all documents submitted to us as certified, facsimile, or photostatic copies conform to the originals of such documents, and such original documents are authentic; the signatures on all documents are genuine; and all natural persons who have executed any of the documents had the legal capacity to do so.

The law covered by our opinions expressed below is limited to the general corporation law of the State of Delaware as set for in the Delaware General Corporation Law (the "DGCL"), including applicable rules and regulations promulgated under the DGCL and applicable reported judicial decisions interpreting the DGCL. We neither express nor imply any opinion with respect to any other laws or the laws of any other jurisdiction.

We undertake no, and hereby disclaim any, obligation to advise you of any change in any matter set forth herein, whether based on a change in laws, a change in any fact relating to the Company, or any other circumstance. This letter is limited to the matters expressly stated herein, and no opinions are to be inferred or may be implied beyond the opinions expressly set forth below. Without limiting the generality of the foregoing, we neither express nor imply any opinion regarding the contents of the Registration Statement, other than as expressly stated below with respect to the Shares.

Based upon and subject to the foregoing, we are of the opinion that (i) the 20,769,034 shares of Common Stock outstanding on the date hereof that are being registered for resale are validly issued, fully paid and non-assessable, and (ii) the Conversion Shares, when issued upon conversion of the Series B Preferred Stock in accordance with the terms of the Series B Preferred Stock, will be validly issued, fully paid and non-assessable.

This 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 letter as Exhibit 5.1 to the Registration Statement and to the reference to our firm under the caption "Legal Matters" in the prospectus that forms part of 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

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM'S CONSENT

We consent to the incorporation by reference in this Registration Statement of Iovance Biotherapeutics, Inc. (formerly known as Lion Biotechnologies, Inc.) on Post-Effective Amendment No. 1 to Form S-3 (File No. 333-212373) of our report dated March 8, 2017, with respect to our audit of the financial statements of Lion Biotechnologies, Inc. as of December 31, 2016 and for the year then ended and our report dated March 8, 2017 with respect to our audit of the effectiveness of internal control over financial reporting of Lion Biotechnologies, Inc. as of December 31, 2016 appearing in the Annual Report on Form 10-K of Lion Biotechnologies, Inc. for the year ended December 31, 2016. We also consent to the reference to our firm under the heading "Experts" in such Prospectus.

/s/ Marcum LLP

Marcum LLP
New York, NY
July 31, 2017

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Post-effective Amendment No. 1 to the Registration Statement on Form S-3 (File No. 333-212373) of our report dated March 11, 2016, with respect to the financial statements of Lion Biotechnologies, Inc., as of December 31, 2015 and 2014, and for the years ended, which appear in Lion Biotechnologies, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2016 filed with the Securities and Exchange Commission on March 9, 2017. We also consent to the reference to our firm under the heading "Experts" in the Registration statement.

/s/ Weinberg & Company, P.A.

Los Angeles, California

July 31, 2017
