

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:  
Istvan Benko  
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.

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## 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. 333-215320) ( 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.

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

Subject to Completion, Dated July 31, 2017

PROSPECTUS

**\$100,000,000**

# **IOVANCE BIOTHERAPEUTICS, INC.**

**Common Stock  
Preferred Stock  
Debt Securities  
Warrants  
Units**

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We may offer and sell from time to time, in one or more offerings and on terms that we will determine at the time of each offering, shares of common stock, shares of preferred stock, debt securities and/or warrants, either separately, together with other securities covered by this prospectus or as units consisting of two or more of the securities covered by this prospectus. The debt securities, preferred stock and warrants may be convertible into or exercisable or exchangeable for common stock, preferred stock or debt securities. The aggregate offering price of all securities sold under this prospectus will not exceed \$100,000,000.

We will provide the specific terms of each offering of securities, including the price and the type and amount of securities to be offered and sold, in a supplement to this prospectus. You should read this prospectus and the prospectus supplement carefully before you invest.

We may offer and sell these securities directly to purchasers or to or through one or more underwriters, dealers and agents, and on a continuous or delayed basis. If we sell securities to or through underwriters, dealers or agents, we will include their names and the fees, commissions and discounts that they will receive, as well as the net proceeds to us, in the prospectus supplement. This prospectus may not be used to sell our securities unless it is accompanied by the prospectus supplement. The delivery of this prospectus together with a prospectus supplement relating to the offered securities shall not constitute an offer of any other securities covered by this prospectus.

**Investing in our securities involves a high degree of risk. See “Risk Factors” on page 4 of this prospectus and in the applicable prospectus supplement for a discussion of risks that you should consider before you invest in our securities.**

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 on The Nasdaq Global Market was \$5.80 per share.

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**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 a part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission (the “SEC”) utilizing a “shelf” registration process. Under the shelf registration process, we may sell any combination of the securities described in this prospectus in one or more transactions up to a total dollar amount of \$100,000,000.

The rules and regulations of the SEC allow us to omit from this prospectus certain information that is included in the registration statement. For further information about us and our securities, you should review the registration statement and the exhibits filed with the registration statement. In addition, the SEC allows us to incorporate by reference into this prospectus information in the reports and other documents that we file with the SEC, which means that we can disclose important information to you by referring you to those reports and other documents. The information incorporated by reference is considered to be part of this prospectus, and information that we later file with the SEC will automatically update and, where applicable, modify or supersede that information. You may read the registration statement (including its exhibits) and the reports and other documents that we file with the SEC at the SEC’s website, [www.sec.gov](http://www.sec.gov), or at the SEC’s Public Reference Room described below under the heading “Where You Can Find More Information.”

This prospectus provides you with a general description of the securities we may offer. Each time we offer securities under this shelf registration, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with the additional information described under the heading “Incorporation of Certain Information by Reference.” To the extent that any information in the prospectus supplement is inconsistent with the information in this prospectus, the information in the prospectus supplement will modify or supersede this prospectus.

This prospectus and the applicable prospectus supplement do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor do this prospectus and the applicable prospectus supplement constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction.

You should not assume that the information contained in this prospectus and the applicable prospectus supplement is accurate as of any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference is correct as of any date subsequent to the date of the document incorporated by reference, even though this prospectus and any applicable prospectus supplement is delivered or securities are sold on a later date. Our business, financial condition, results of operations and prospects may have changed since those dates.

You should rely only on the information contained in this prospectus, in the applicable prospectus supplement and in any documents incorporated by reference into this prospectus and the applicable prospectus supplement. We have not authorized any salesperson, dealer or other person to provide you with information different from that contained in this prospectus, in the applicable prospectus supplement or in any documents incorporated by reference into this prospectus or the applicable prospectus supplement, and you are not entitled to rely upon any such different information.

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

## IOVANCE BIOTHERAPEUTICS, INC.

### 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 Articles 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](http://www.iovance.com). Information on our website is not, and should not be considered, part of this prospectus.

## **RISK FACTORS**

Investment in any securities offered pursuant to this prospectus and the applicable prospectus supplement involves a high degree of risk. Prior to making a decision about investing in our securities, you should carefully consider the risk factors described in our most recent Annual Report on Form 10-K and Quarterly Report on Form 10-Q and in any subsequent Quarterly Reports on Form 10-Q or Current Reports on Form 8-K that we file with the SEC after the date of this prospectus, all of which are incorporated by reference into this prospectus. You should also carefully review all other information contained in or incorporated by reference into this prospectus and the applicable prospectus supplement, including the information contained below under the heading “Cautionary Note Regarding Forward-Looking Statements,” as updated by our subsequent filings under the Securities Exchange Act of 1934, as amended (the “Exchange Act”). The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.

### **CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS**

This prospectus and the documents incorporated herein by reference contain forward-looking statements, and we anticipate that the applicable prospectus supplement will contain forward-looking statements. These statements 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.

In addition, you should refer to the section of this prospectus entitled "Risk Factors" as well as the documents we have incorporated by reference 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 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.

We may discuss certain of these risks and uncertainties in greater detail in any prospectus supplement under the heading "Risk Factors." Additional cautionary statements or discussions of risks and uncertainties that could affect our results or the achievement of the expectations described in forward-looking statements may also be contained in the documents we incorporate by reference into this prospectus, including our most recent Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q filed with the SEC.

#### RATIO OF EARNINGS TO FIXED CHARGES AND PREFERENCE DIVIDENDS

The following table sets forth our ratio of earnings, if any, to fixed charges for each of the periods presented:

	Year Ended December 31,					Three Months Ended March 31,
	2016 <sup>(1)</sup>	2015 <sup>(1)</sup>	2014 <sup>(1)</sup>	2013 <sup>(1)</sup>	2012 <sup>(1)</sup>	2017 <sup>(1)</sup>
Ratio of earnings to fixed charges	N/A	N/A	N/A	N/A	N/A	N/A

(1) For these periods, earnings were inadequate to cover fixed charges and our combined fixed charges and preferred stock dividends in those periods. The amount of the coverage deficiencies were \$52,894,000, \$27,660,000, \$12,035,000, \$25,382,000, and \$3,308,000 for the years ended December 31, 2016, 2015, 2014, 2013 and 2012 and \$20,684,000 for the three months ended March 31, 2017, respectively.

We did not pay or accrue any preference dividends for any of the periods presented above.

## USE OF PROCEEDS

Unless we state otherwise in the applicable prospectus supplement, we intend to use the net proceeds from the sale of securities described in this prospectus for the further development of our product candidates and for general corporate purposes, which may include, among other things, reducing indebtedness, acquiring other companies (although we currently have no agreement to acquire any other company), purchasing other assets or lines of business, repurchasing our common stock and making capital expenditures, as well as for working capital. Until we use the net proceeds for these purposes, we intend to invest the net proceeds in investment-grade, interest-bearing securities. We have not determined the amounts we plan to spend on any of these areas or the timing of these expenditures. As a result, our management will have broad discretion regarding the application of the net proceeds from the sale of securities described in this prospectus.

## THE SECURITIES THAT WE MAY OFFER

We, directly or through underwriters, dealers or agents designated by us from time to time, may offer, issue and sell, together or separately, up to \$100,000,000 in the aggregate of:

- shares of our common stock, par value \$0.000041666 per share;
- shares of our preferred stock, par value \$0.001 per share;
- debt securities;
- warrants to purchase shares of our common stock, shares of our preferred stock and/or our debt securities; and
- units consisting of two or more of the securities described above.

The common stock, the preferred stock, the debt securities, the warrants and the units collectively are referred to in this prospectus as the “securities.”

We have summarized below the material terms of the various types of securities that we may offer. We will describe in the applicable prospectus supplement the detailed terms of the securities offered by that supplement. If indicated in the prospectus supplement, the terms of the offered securities may differ from the terms summarized below.

**This prospectus may not be used to sell our securities unless it is accompanied by the applicable prospectus supplement.**

## DESCRIPTION OF SECURITIES

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

### DESCRIPTION OF COMMON STOCK

We are presently authorized to issue 150,000,000 shares of \$0.000041666 par value common stock and 50,000,000 shares of \$0.001 par value preferred stock. As of June 30, 2017 we had 62,680,390 shares of common stock issued and outstanding.

We have one class of common stock. Holders of our common stock are entitled to one vote per share on all matters to be voted upon by stockholders and do not have cumulative voting rights in the election of directors. Holders of shares of 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.

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 permit stockholders to call a special meeting of stockholders only if the holders of a majority of the voting power of our outstanding stock request such a meeting;
- 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.

The transfer agent and registrar of our common stock is Continental Stock Transfer and Trust Company. The address of our transfer agent and registrar is 7 Battery Place, 8th Floor New York, New York 10004, and its telephone number is (212) 509-4000.

Our common stock is traded on the Nasdaq Global Market under the symbol "IOVA."

### DESCRIPTION OF PREFERRED STOCK

We have authority to issue 50,000,000 shares of preferred stock, par value \$0.001 per share. As of June 30, 2017, we had issued and outstanding 1,694 shares of Series A Convertible Preferred Stock (the "Series A Preferred") that are convertible into 847,000 shares of common stock, and 7,946,673 shares of Series B Preferred (the "Series B Preferred"). There are no other series of shares of our preferred stock currently issued or outstanding. The rights and restrictions granted or imposed on the shares of the Series A Preferred and Series B Preferred are described below.

Under our certificate of incorporation, our board of directors has the authority, without further action by 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.

We will describe in a prospectus supplement relating to any series of preferred stock being offered the following terms:

- the distinguishing designation of the series of preferred stock;
- the number of shares of the series of preferred stock offered, the liquidation preference per share and the offering price of the series;
- the dividend rate(s), period(s) or payment date(s) or method(s) of calculation applicable to the series of preferred stock;
- whether dividends are cumulative or non-cumulative and, if cumulative, the date from which dividends on the series of preferred stock will accumulate;
- the procedures for any auction and remarketing, if any, for the series of preferred stock;
- the provisions for a sinking fund, if any, for the series of preferred stock;
- the provision for redemption, if applicable, of the series of preferred stock;
- any listing of the series of preferred stock on any securities exchange;
- the terms and conditions, if applicable, upon which the series of preferred stock will be convertible into common stock, including the conversion price or manner of calculation and conversion period;
- voting rights, if any, of the series of preferred stock;
- a discussion of any material or special U.S. federal income tax considerations applicable to the series of preferred stock;
- the relative ranking and preferences of the series of preferred stock as to dividend rights and rights upon the liquidation, dissolution or winding up of our affairs;

- any limitations on issuance of any series of preferred stock ranking senior to or on a parity with the series of preferred stock being offered as to dividend rights and rights upon liquidation, dissolution or winding up of our affairs; and
- any other specific terms, preferences, rights, limitations or restrictions of the series of preferred stock.

Unless we specify otherwise in the applicable prospectus supplement, the preferred stock will rank, relating to dividends and upon our liquidation, dissolution or winding up:

- senior to all classes or series of our common stock and to all of our equity securities ranking junior to the preferred stock;
- on a parity with all of our equity securities the terms of which specifically provide that the equity securities rank on a parity with the preferred stock; and
- junior to all of our equity securities the terms of which specifically provide that the equity securities rank senior to the preferred stock.

### **Series A Preferred**

In October 2013, we created a new class of preferred stock designated as Series A Convertible Preferred Stock. The shares of Series A Preferred have a stated value of \$1,000 per share and are initially convertible into shares of common stock at a price of \$2.00 per share (subject to adjustment as described below). The rights of the Series A Preferred are set forth in the Certificate of Designation Of Preferences And Rights Of Series A Convertible Preferred Stock (the "Series A Certificate of Designation"), which gives the holders of the Series A Preferred the following rights, preferences and privileges:

The Series A Preferred may, at the option of the holder, be converted at any time or from time to time into fully paid and non-assessable shares of common stock at the conversion price in effect at the time of conversion; provided, that a holder of Series A Preferred may at any given time convert only up to that number of shares of Series A Preferred so that, upon conversion, the aggregate beneficial ownership of the common stock (calculated pursuant to Rule 13d-3 of the Exchange Act) of such holder and all persons affiliated with such holder, is not more than 4.99% of the common stock then outstanding (subject to adjustment up to 9.99% solely at the holder's discretion upon 60 days' prior notice). The number of shares into which one share of Series A Preferred shall be convertible is determined by dividing the stated value of \$1,000 per share by the initial Conversion Price. The "Conversion Price" per share for the Series A Preferred is initially equal to \$2.00 (subject to appropriate adjustment for certain events, including stock splits, stock dividends, combinations, recapitalizations or other recapitalizations affecting the Series A Preferred).

The Series A Preferred will automatically be converted into common stock at the then-applicable Conversion Price (1) upon the written consent of the holders holding at least a majority of the outstanding shares of Series A Preferred or (2) if required by us to be able to list our common stock on a national securities exchange; provided, any such conversions will continue to be limited by, and 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 stockholders; provided, that we may not, without the prior written consent of a majority of the outstanding Series A Preferred: (1) amend, alter, or repeal any provision of our certificate of incorporation (including the Series A Certificate of Designation) or Bylaws in a manner adverse to the Series A Preferred; (2) 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 (3) 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**

In June 2016 we created a new class of Preferred Stock designated as “Series B Preferred Stock.” The rights of the Series B Preferred are set forth in the Certificate of Designation of Preferences and Rights of Series B Preferred Stock (the “Series B Certificate of Designation”). A total of 11,500,000 shares of Series B Preferred are authorized for issuance under Series B Certificate of Designation. The shares of Series B Preferred have a stated value of \$4.75 per share and are convertible into shares of our common stock at a conversion price of \$4.75 per share, subject to certain adjustments.

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.

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 at the conversion price in effect at the time of conversion, except that, subject to certain limited 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 conversion price of \$4.75 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 convert all of the outstanding shares of the Series B Preferred into shares of common stock, subject to the beneficial ownership limitations of each holder 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 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 Series B Certificate of Designation) 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 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.

## DESCRIPTION OF DEBT SECURITIES

The following is a general description of the terms of debt securities we may issue from time to time unless we provide otherwise in the applicable prospectus supplement. Particular terms of any debt securities we offer will be described in the prospectus supplement relating to such debt securities.

As required by Federal law for all bonds and notes of companies that are publicly offered, any debt securities we issue will be governed by a document called an “indenture,” the form of which is filed as an exhibit to the registration statement of which this prospectus forms a part. We have summarized the general features of the debt securities to be governed by the indenture. The summary is not complete. An indenture is a contract between us and a financial institution acting as trustee on behalf of the holders of the debt securities, and is subject to and governed by the Trust Indenture Act of 1939, as amended. The trustee has two main roles. First, the trustee can enforce holders’ rights against us if we default. There are some limitations on the extent to which the trustee acts on holders’ behalf, described in the second paragraph under “Description of Debt Securities—Events of Default.” Second, the trustee performs certain administrative duties, such as sending interest and principal payments to holders.

Because this section is a summary, it does not describe every aspect of any debt securities we may issue or the indenture governing any such debt securities. Particular terms of any debt securities we offer will be described in the prospectus supplement relating to such debt securities, and we urge you to read the applicable executed indenture, which will be filed with the SEC at the time of any offering of debt securities, because it, and not this description, will define the rights of holders of such debt securities.

A prospectus supplement will describe the particular terms of any series of debt securities we may issue, including some or all of the following:

- the designation or title of the series of debt securities;
- the total principal amount of the series of debt securities, the denominations in which the offered debt securities will be issued and whether the offering may be reopened for additional securities of that series and on what terms;
- the percentage of the principal amount at which the series of debt securities will be offered;
- the date or dates on which principal will be payable;
- the rate or rates (which may be either fixed or variable) and/or the method of determining such rate or rates of interest, if any;
- the date or dates from which any interest will accrue, or the method of determining such date or dates, and the date or dates on which any interest will be payable;
- the terms for redemption, extension or early repayment, if any;
- the currencies in which the series of debt securities are issued and payable;
- whether the amount of payments of principal, interest or premium, if any, on a series of debt securities will be determined with reference to an index, formula or other method and how these amounts will be determined;
- the place or places of payment, transfer, conversion and/or exchange of the debt securities;
- the provision for any sinking fund;
- any restrictive covenants;
- events of default;
- whether the series of debt securities are issuable in certificated form;
- any provisions for legal defeasance or covenant defeasance;



- whether and under what circumstances we will pay additional amounts in respect of any tax, assessment or governmental charge and, if so, whether we will have the option to redeem the debt securities rather than pay the additional amounts (and the terms of this option);
- any provisions for convertibility or exchangeability of the debt securities into or for any other securities;
- whether the debt securities are subject to subordination and the terms of such subordination;
- any listing of the debt securities on any securities exchange;
- if applicable, a discussion of certain U.S. Federal income tax considerations, including those related to original issue discount, if applicable; and
- any other material terms.

The debt securities may be secured or unsecured obligations. Unless the prospectus supplement states otherwise, principal, interest and premium, if any, will be paid by us in immediately available funds.

## **General**

The indenture may provide that any debt securities proposed to be sold under this prospectus and the applicable prospectus supplement relating to such debt securities (“offered debt securities”) and any debt securities issuable upon conversion or exchange of other offered securities (“underlying debt securities”) may be issued under the indenture in one or more series.

For purposes of this prospectus, any reference to the payment of principal of, or interest or premium, if any, on, debt securities will include additional amounts if required by the terms of the debt securities.

Debt securities issued under an indenture, when a single trustee is acting for all debt securities issued under the indenture, are called the “indenture securities.” The indenture may also provide that there may be more than one trustee thereunder, each with respect to one or more different series of securities issued thereunder. See “Description of Debt Securities—Resignation of Trustee” below. At a time when two or more trustees are acting under an indenture, each with respect to only certain series, the term “indenture securities” means the one or more series of debt securities with respect to which each respective trustee is acting. In the event that there is more than one trustee under an indenture, the powers and trust obligations of each trustee described in this prospectus will extend only to the one or more series of indenture securities for which it is trustee. If two or more trustees are acting under an indenture, then the indenture securities for which each trustee is acting would be treated as if issued under separate indentures.

We refer you to the applicable prospectus supplement relating to any debt securities we may issue from time to time for information with respect to any deletions from, modifications of or additions to the Events of Default or covenants that are described below, including any addition of a covenant or other provision providing event risk or similar protection, that will be applicable with respect to such debt securities.

We have the ability to issue indenture securities with terms different from those of indenture securities previously issued and, without the consent of the holders thereof, to reopen a previous issue of a series of indenture securities and issue additional indenture securities of that series unless the reopening was restricted when that series was created.

## **Conversion and Exchange**

If any debt securities are convertible into or exchangeable for other securities, the related prospectus supplement will explain the terms and conditions of the conversion or exchange, including the conversion price or exchange ratio (or the calculation method), the conversion or exchange period (or how the period will be determined), if conversion or exchange will be mandatory or at the option of the holder or us, provisions for adjusting the conversion price or the exchange ratio and provisions affecting conversion or exchange in the event of the redemption of the underlying debt securities. These terms may also include provisions under which the number or amount of other securities to be received by the holders of the debt securities upon conversion or exchange would be calculated according to the market price of the other securities as of a time stated in the prospectus supplement.

## Payment and Paying Agents

We will pay interest to the person listed in the applicable trustee's records as the owner of the debt security at the close of business on a particular day in advance of each due date for interest, even if that person no longer owns the debt security on the interest due date. That day, often approximately two weeks in advance of the interest due date, is called the "record date." Because we will pay all the interest for an interest period to the holders on the record date, holders buying and selling debt securities must work out between themselves the appropriate purchase price. The most common manner is to adjust the sales price of the debt securities to prorate interest fairly between buyer and seller based on their respective ownership periods within the particular interest period. This prorated interest amount is called "accrued interest."

## Events of Default

Holders of debt securities of any series will have rights if an Event of Default occurs in respect of the debt securities of such series and is not cured, as described later in this subsection. The term "Event of Default" in respect of the debt securities of any series means any of the following:

- we do not pay the principal of, or any premium on, a debt security of the series on its due date;
- we do not pay interest on a debt security of the series within 30 days of its due date;
- we do not deposit any sinking fund payment in respect of debt securities of the series on its due date and we do not cure this default within five days;
- we remain in breach of a covenant in respect of debt securities of the series for 90 days after we receive a written notice of default stating we are in breach. The notice must be sent by either the trustee or holders of at least 25% of the principal amount of debt securities of the series;
- we file for bankruptcy or certain other events of bankruptcy, insolvency or reorganization occur; and
- any other Event of Default occurs in respect of debt securities of the series described in the prospectus supplement.

An Event of Default for a particular series of debt securities does not necessarily constitute an Event of Default for any other series of debt securities issued under the same or any other indenture. The trustee may withhold notice to the holders of debt securities of any default, except in the payment of principal, premium or interest, if it considers the withholding of notice to be in the best interests of the holders.

### *Remedies if an Event of Default Occurs*

If an Event of Default has occurred and has not been cured or waived, the trustee or the holders of not less than 25% in principal amount of the debt securities of the affected series may declare the entire principal amount of all the debt securities of that series to be due and immediately payable. This is called a declaration of acceleration of maturity. A declaration of acceleration of maturity may be canceled by the holders of a majority in principal amount of the debt securities of the affected series if the default is cured or waived and certain other conditions are satisfied.

Except in cases of default, where the trustee has some special duties, the trustee typically is not required to take any action under an indenture at the request of any holders unless the holders offer the trustee reasonable protection from expenses and liability (called an "indemnity"). If reasonable indemnity is provided, the holders of a majority in principal amount of the outstanding debt securities of the relevant series may direct the time, method and place of conducting any lawsuit or other formal legal action seeking any remedy available to the trustee. The trustee may refuse to follow those directions in certain circumstances.

Before a holder is allowed to bypass the trustee and bring its own lawsuit or other formal legal action or take other steps to enforce its rights or protect its interests relating to any debt securities, the following must occur:

- the holder must give the trustee written notice that an Event of Default has occurred and remains uncured;
- the holders of at least 25% in principal amount of all outstanding debt securities of the relevant series must make a written request that the trustee take action because of the default and must offer reasonable indemnity to the trustee against the cost and other liabilities of taking that action;
- the trustee must not have taken action for 60 days after receipt of the above notice and offer of indemnity; and
- the holders of a majority in principal amount of the debt securities must not have given the trustee a direction inconsistent with the above notice during that 60-day period.

However, a holder is entitled at any time to bring a lawsuit for the payment of money due on its debt securities on or after the due date. Each year, we will furnish to each trustee a written statement of certain of our officers certifying that to their knowledge we are in compliance with the indenture and the debt securities, or else specifying any default.

#### ***Waiver of Default***

The holders of a majority in principal amount of the relevant series of debt securities may waive a default for all such series of debt securities. If this happens, the default will be treated as if it had not occurred. No one can waive a payment default on a holder's debt security, however, without the holder's approval.

#### **Merger or Consolidation**

Under the terms of an indenture, we may be permitted to consolidate or merge with another entity. We may also be permitted to sell all or substantially all of our assets to another entity. However, typically we may not take any of these actions unless all the following conditions are met:

- if we do not survive such transaction or we convey, transfer or lease our properties and assets substantially as an entirety, the acquiring company must be a corporation, limited liability company, partnership or trust, or other corporate form, organized under the laws of any state of the United States or the District of Columbia, and such company must agree to be legally responsible for our debt securities, and, if not already subject to the jurisdiction of any state of the United States or the District of Columbia, the new company must submit to such jurisdiction for all purposes with respect to the debt securities and appoint an agent for service of process;
- alternatively, we must be the surviving company;
- immediately after the transaction no Event of Default will exist;
- we must deliver certain certificates and documents to the trustee; and
- we must satisfy any other requirements specified in the prospectus supplement relating to a particular series of debt securities.

#### **Modification or Waiver**

There are three types of changes we may make to an indenture and the debt securities issued thereunder.

#### ***Changes Requiring Approval***

First, there are changes that we cannot make to debt securities without specific approval of all of the holders. The following is a list of the types of changes that may require specific approval:

- change the stated maturity of the principal of or rate of interest on a debt security;
- reduce any amounts due on a debt security;
- reduce the amount of principal payable upon acceleration of the maturity of a security following a default;
- at any time after a change of control has occurred, reduce any premium payable upon a change of control;
- change the place or currency of payment on a debt security (except as otherwise described in the prospectus or prospectus supplement);
- impair the right of holders to sue for payment;
- adversely affect any right to convert or exchange a debt security in accordance with its terms;
- reduce the percentage of holders of debt securities whose consent is needed to modify or amend the indenture;
- reduce the percentage of holders of debt securities whose consent is needed to waive compliance with certain provisions of the indenture or to waive certain defaults;
- modify any other aspect of the provisions of the indenture dealing with supplemental indentures, modification and waiver of past defaults, changes to the quorum or voting requirements or the waiver of certain covenants; and
- change any obligation we have to pay additional amounts.

#### ***Changes Not Requiring Approval***

The second type of change does not require any vote by the holders of the debt securities. This type is limited to clarifications and certain other changes that would not adversely affect holders of the outstanding debt securities in any material respect, including the addition of covenants and guarantees. We also do not need any approval to make any change that affects only debt securities to be issued under the indenture after the change takes effect.

#### ***Changes Requiring Majority Approval***

Any other change to the indenture and the debt securities may require the following approval:

- if the change affects only one series of debt securities, it must be approved by the holders of a majority in principal amount of that series; and
- if the change affects more than one series of debt securities issued under the same indenture, it must be approved by the holders of a majority in principal amount of all of the series affected by the change, with all affected series voting together as one class for this purpose.

The holders of a majority in principal amount of all of the series of debt securities issued under an indenture, voting together as one class for this purpose, may waive our compliance obligations with respect to some of our covenants in that indenture. However, we cannot obtain a waiver of a payment default or of any of the matters covered by the bullet points included above under “Description of Debt Securities—Modification or Waiver—Changes Requiring Approval.”

#### ***Further Details Concerning Voting***

When taking a vote on proposed changes to the indenture and the debt securities, we expect to use the following rules to decide how much principal to attribute to a debt security:

- for original issue discount securities, we will use the principal amount that would be due and payable on the voting date if the maturity of these debt securities were accelerated to that date because of a default;

- for debt securities whose principal amount is not known (for example, because it is based on an index), we will use a special rule for that debt security described in the related prospectus supplement; and
- for debt securities denominated in one or more foreign currencies, we will use the U.S. dollar equivalent.

Debt securities will not be considered outstanding, and therefore not eligible to vote, if we have deposited or set aside in trust money for their payment or redemption. Debt securities will also not be eligible to vote if they have been fully defeased as described later under “Description of Debt Securities—Defeasance—Legal Defeasance.”

We generally will be entitled to set any day as a record date for the purpose of determining the holders of outstanding indenture securities that are entitled to vote or take other action under the indenture. If we set a record date for a vote or other action to be taken by holders of one or more series, that vote or action may be taken only by persons who are holders of outstanding indenture securities of those series on the record date and must be taken within 11 months following the record date.

Book-entry and other indirect holders will need to consult their banks or brokers for information on how approval may be granted or denied if we seek to change the indenture or the debt securities or request a waiver.

## **Defeasance**

The following provisions will be applicable to each series of debt securities unless we state in the applicable prospectus supplement that the provisions of covenant defeasance and legal defeasance will not be applicable to that series.

### ***Covenant Defeasance***

We can make the deposit described below and be released from some of the restrictive covenants in the indenture under which the particular series was issued. This is called “covenant defeasance.” In that event, the holders would lose the protection of those restrictive covenants but would gain the protection of having money and government securities set aside in trust to repay holders’ debt securities. If applicable, a holder also would be released from the subordination provisions described under “Description of Debt Securities—Indenture Provisions—Subordination” below. In order to achieve covenant defeasance, we must do the following:

- If the debt securities of the particular series are denominated in U.S. dollars, we must deposit in trust for the benefit of all holders of such debt securities a combination of money and U.S. government or U.S. government agency notes or bonds that will generate enough cash to make interest, principal and any other payments on the debt securities on their various due dates;
- We may be required to deliver to the trustee a legal opinion of our counsel confirming that, under current U.S. Federal income tax law, we may make the above deposit without causing the holders to be taxed on the debt securities any differently than if we did not make the deposit and just repaid the debt securities ourselves at maturity; and
- We must deliver to the trustee certain documentation stating that all conditions precedent to covenant defeasance have been complied with.

If we accomplish covenant defeasance, holders can still look to us for repayment of the debt securities if there were a shortfall in the trust deposit or the trustee is prevented from making payment. In fact, if one of the remaining Events of Default occurred (such as our bankruptcy) and the debt securities became immediately due and payable, there might be a shortfall. Depending on the event causing the default, holders may not be able to obtain payment of the shortfall.

## ***Legal Defeasance***

As described below, we can legally release ourselves from all payment and other obligations on the debt securities of a particular series (called “legal defeasance”), (1) if there is a change in U.S. Federal tax law that allows us to effect the release without causing the holders to be taxed any differently than if the release had not occurred, and (2) if we put in place the following other arrangements for holders to be repaid:

- If the debt securities of the particular series are denominated in U.S. dollars, we must deposit in trust for the benefit of all holders of such debt securities a combination of money and U.S. government or U.S. government agency notes or bonds that will generate enough cash to make interest, principal and any other payments on the debt securities on their various due dates;
- We may be required to deliver to the trustee a legal opinion confirming that there has been a change in current U.S. Federal tax law or an Internal Revenue Service ruling that allows us to make the above deposit without causing the holders to be taxed on the debt securities any differently than if we did not make the deposit and just repaid the debt securities ourselves at maturity. Under current U.S. Federal tax law, the deposit and our legal release from the debt securities would be treated as though we paid each holder its share of the cash and notes or bonds at the time the cash and notes or bonds were deposited in trust in exchange for its debt securities and holders would recognize gain or loss on the debt securities at the time of the deposit; and
- We must deliver to the trustee a legal opinion and officers’ certificate stating that all conditions precedent to legal defeasance have been complied with.

If we ever did accomplish legal defeasance, as described above, holders would have to rely solely on the trust deposit for repayment of the debt securities. Holders could not look to us for repayment in the unlikely event of any shortfall. Conversely, the trust deposit would most likely be protected from claims of our lenders and other creditors if we ever became bankrupt or insolvent. If applicable, holders would also be released from the subordination provisions described later under “Description of Debt Securities—Indenture Provisions—Subordination.”

## **Resignation of Trustee**

Each trustee may resign or be removed with respect to one or more series of indenture securities provided that a successor trustee is appointed to act with respect to such series. In the event that two or more persons are acting as trustee with respect to different series of indenture securities under the indenture, each of the trustees will be a trustee of a trust separate and apart from the trust administered by any other trustee.

## **Indenture Provisions—Subordination**

Upon any distribution of our assets upon our dissolution, winding up, liquidation or reorganization, the payment of the principal of (and premium, if any) and interest on any indenture securities denominated as subordinated debt securities is to be subordinated to the extent provided in the indenture in right of payment to the prior payment in full of all Senior Indebtedness (defined below), but our obligation to holders to make payment of the principal of (and premium, if any) and interest on such subordinated debt securities will not otherwise be affected. In addition, no payment on account of principal (or premium, if any), interest or sinking fund, if any, may be made on such subordinated debt securities at any time unless full payment of all amounts due in respect of the principal (and premium, if any), interest and sinking fund, if any, on Senior Indebtedness has been made or duly provided for in money or money’s worth.

In the event that, notwithstanding the foregoing, any payment from us is received by the trustee in respect of subordinated debt securities or by the holders of any of such subordinated debt securities before all Senior Indebtedness is paid in full, the payment or distribution must be paid over to the holders of the Senior Indebtedness or on their behalf for application to the payment of all the Senior Indebtedness remaining unpaid until all the Senior Indebtedness has been paid in full, after giving effect to any concurrent payment or distribution to the holders of the Senior Indebtedness. Subject to the payment in full of all Senior Indebtedness, the holders of such subordinated debt securities will be subrogated to the rights of the holders of the Senior Indebtedness to the extent of payments made to the holders of the Senior Indebtedness out of the distributive share of such subordinated debt securities.

By reason of this subordination, in the event of a distribution of our assets upon our insolvency, certain of our senior creditors may recover more, ratably, than holders of any subordinated debt securities. The related indenture will provide that these subordination provisions will not apply to money and securities held in trust under the defeasance provisions of the indenture.

“Senior Indebtedness” will be defined in an applicable indenture as the principal of (and premium, if any) and unpaid interest on:

- our indebtedness (including indebtedness of others guaranteed by us), whenever created, incurred, assumed or guaranteed, for money borrowed (other than indenture securities issued under the indenture and denominated as subordinated debt securities), unless in the instrument creating or evidencing the same or under which the same is outstanding it is provided that this indebtedness is not senior or prior in right of payment to the subordinated debt securities; and
- renewals, extensions, modifications and refinancings of any of such indebtedness.

The prospectus supplement accompanying any series of indenture securities denominated as subordinated debt securities will set forth the approximate amount of our Senior Indebtedness outstanding as of a recent date.

#### **Trustee**

We intend to name the indenture trustee for each series of indenture securities in the related prospectus supplement.

#### **Certain Considerations Relating to Foreign Currencies**

Debt securities denominated or payable in foreign currencies may entail significant risks. These risks include the possibility of significant fluctuations in the foreign currency markets, the imposition or modification of foreign exchange controls and potential illiquidity in the secondary market. These risks will vary depending upon the currency or currencies involved and will be more fully described in the applicable prospectus supplement.

#### **DESCRIPTION OF WARRANTS**

We may issue warrants for the purchase of shares of our common stock, preferred stock or debt securities. We may issue warrants independently or together with other securities, and the warrants may be attached to or separate from any offered securities. If a series of warrants will be issued under a separate warrant agreement to be entered into between us and the investors or a warrant agent, we will so specify in the applicable prospectus supplement. The following summary of the material provisions of the warrants and warrant agreements is subject to, and qualified in its entirety by reference to, all the provisions of the warrants and any warrant agreement applicable to a particular series of warrants. The terms of any warrants offered under a prospectus supplement may differ from the terms described below. We urge you to read the applicable prospectus supplement, as well as the complete warrants and warrant agreements that contain the terms of the warrants.

The material terms of any issue of warrants will be described in the prospectus supplement relating to the issue. Those terms may include:

- the number of shares of common stock or preferred stock purchasable upon the exercise of warrants to purchase such shares and the price at which such number of shares may be purchased upon such exercise;

- a summary of the designation and terms (including, without limitation, liquidation, dividend, conversion and voting rights) of the series of preferred stock purchasable upon exercise of warrants to purchase preferred stock as set forth in the certificate of designation for such series of preferred stock;
- the principal amount of debt securities that may be purchased upon exercise of a debt warrant and the exercise price for the warrants, which may be payable in cash, securities or other property;
- the date, if any, on and after which the warrants and the related debt securities, preferred stock or common stock will be separately transferable;
- the terms of any rights to redeem or call the warrants;
- the date on which the right to exercise the warrants will commence and the date on which the right will expire;
- U.S. federal income tax consequences applicable to the warrants; and
- any additional terms of the warrants, including terms, procedures, and limitations relating to the exchange, exercise and settlement of the warrants.

Each warrant will entitle its holder to purchase the principal amount of debt securities or the number of shares of preferred stock or common stock at the exercise price set forth in, or calculable as set forth in, the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

A holder of warrant certificates may exchange them for new warrant certificates of different denominations, present them for registration of transfer and exercise them at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement. Until any warrants to purchase debt securities are exercised, the holder of the warrants will not have any rights of holders of the debt securities that can be purchased upon exercise, including any rights to receive payments of principal, premium or interest on the underlying debt securities or to enforce covenants in the applicable indenture. Until any warrants to purchase common stock or preferred stock are exercised, the holders of the warrants will not have any rights of holders of the underlying common stock or preferred stock, including any rights to receive dividends or payments upon any liquidation, dissolution or winding up on the common stock or preferred stock, if any.

#### **DESCRIPTION OF UNITS**

We may issue units consisting of any combination of the other types of securities offered under this prospectus in one or more series. We may elect to evidence each series of units by unit certificates that we will issue under a separate unit agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units.

The following description, together with the additional information included in any applicable prospectus supplement, summarizes the general features of the units that we may offer under this prospectus. You should read any prospectus supplement related to the series of units being offered, as well as the complete unit agreements that contain the terms of the units. Specific unit agreements will contain additional important terms, and we will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the form of each unit agreement relating to units offered under this prospectus.



If we offer any units, certain terms of that series of units will be described in the applicable prospectus supplement, including, without limitation, the following, as applicable:

- the title of the series of units;
- identification and description of the separate constituent securities comprising the units;
- the price or prices at which the units will be issued;
- the date, if any, on and after which the constituent securities comprising the units will be separately transferable;
- a discussion of certain U.S. federal income tax considerations applicable to the units; and
- any other material terms of the units and their constituent securities.

#### **PLAN OF DISTRIBUTION**

We may sell the securities covered by this prospectus from time to time pursuant to underwritten public offerings, negotiated transactions, block trades or a combination of these methods or through underwriters or dealers, through agents and/or directly to one or more purchasers. The securities may be distributed from time to time in one or more transactions:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

Each time that we sell securities covered by this prospectus, we will provide a prospectus supplement or supplements that will describe the method of distribution and set forth the terms and conditions of the offering of such securities, including the offering price of the securities and the proceeds to us, if applicable.

Offers to purchase the securities being offered by this prospectus may be solicited directly. Agents may also be designated to solicit offers to purchase the securities from time to time. Any agent involved in the offer or sale of our securities will be identified in a prospectus supplement.

If a dealer is utilized in the sale of the securities being offered by this prospectus, the securities will be sold to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale.

If an underwriter is utilized in the sale of the securities being offered by this prospectus, an underwriting agreement will be executed with the underwriter at the time of sale and the name of any underwriter will be provided in the prospectus supplement that the underwriter will use to make resales of the securities to the public. In connection with the sale of the securities, we or the purchasers of securities for whom the underwriter may act as agent, may compensate the underwriter in the form of underwriting discounts or commissions. The underwriter may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters and/or commissions from the purchasers for which they may act as agent. Unless otherwise indicated in a prospectus supplement, an agent will be acting on a best efforts basis and a dealer will purchase securities as a principal, and may then resell the securities at varying prices to be determined by the dealer.

Any compensation paid to underwriters, dealers or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers, will be described in the applicable prospectus supplement. Underwriters, dealers and agents participating in the distribution of the securities may be deemed to be underwriters within the meaning of the Securities Act of 1933, as amended (the “Securities Act”), and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions. We may enter into agreements to indemnify underwriters, dealers and agents against civil liabilities, including liabilities under the Securities Act, or to contribute to payments they may be required to make in respect thereof and to reimburse those persons for certain expenses.

Any common stock issued by us will be traded on The NASDAQ Global Market unless we specify otherwise in the prospectus supplement, but any other securities may or may not be publicly traded or listed on a national securities exchange. To facilitate the offering of securities, certain persons participating in the offering may engage in transactions that stabilize, maintain or otherwise affect the price of the securities. This may include over-allotments or short sales of the securities, which involve the sale by persons participating in the offering of more securities than were sold to them. In these circumstances, these persons would cover such over-allotments or short positions by making purchases in the open market or by exercising their over-allotment option, if any. In addition, these persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

If indicated in the applicable prospectus supplement, underwriters or other persons acting as agents may be authorized to solicit offers by institutions or other suitable purchasers to purchase the securities at the public offering price set forth in the prospectus supplement, pursuant to delayed delivery contracts providing for payment and delivery on the date or dates stated in the prospectus supplement. These purchasers may include, among others, commercial and savings banks, insurance companies, pension funds, investment companies and educational and charitable institutions. Delayed delivery contracts will be subject to the condition that the purchase of the securities covered by the delayed delivery contracts will not at the time of delivery be prohibited under the laws of any jurisdiction in the United States to which the purchaser is subject. The underwriters and agents will not have any responsibility with respect to the validity or performance of these contracts.

We may engage in at-the-market offerings into an existing trading market in accordance with Rule 415(a)(4) under the Securities Act. In addition, we may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement so indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be named in the applicable prospectus supplement. In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus and an applicable prospectus supplement. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

#### **LEGAL MATTERS**

The validity of the securities offered by this prospectus has been passed upon for us by TroyGould PC, Los Angeles, California, and Morgan Lewis & Bockius LLP, New York, New York. Some of the attorneys at TroyGould PC 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 are subject to the information and periodic reporting requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and, in accordance with that act, file periodic reports and other information with the SEC. The periodic reports and other information filed by us are available for inspection and copying at prescribed rates at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information about the operation of the SEC's Public Reference Room. The SEC also maintains an Internet site that contains all reports and other information that we file electronically with the SEC. The address of that website is [www.sec.gov](http://www.sec.gov).

This prospectus is part of a registration statement on Form S-3 that we have filed with the SEC under the Securities Act for the securities offered under this prospectus (the "Form S-3 Registration Statement"). The Form S-3 Registration Statement, including the exhibits to the Form S-3 Registration Statement, contains additional information about us and the securities offered by this prospectus. The rules and regulations of the SEC allow us to omit from this prospectus certain information that is included in the Form S-3 Registration Statement. For further information about us and our securities, you should review the Form S-3 Registration Statement and the exhibits filed with the Form S-3 Registration Statement.

#### **INCORPORATION OF CERTAIN INFORMATION BY REFERENCE**

The SEC allows us to incorporate into this prospectus by reference the information we file with it, which means that we can disclose important information to you by referring you to the documents containing that information. The information incorporated by reference is considered to be part of this prospectus, and information that we later file with the SEC will automatically update and, where applicable, modify or supersede that information.

We hereby incorporate by reference into the prospectus the following documents that we have filed, or will file, with the SEC:

- 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.

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PROSPECTUS

\$100,000,000

**IOVANCE BIOTHERAPEUTICS, INC.**

Common Stock  
Preferred Stock  
Debt Securities  
Warrants  
Units

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The date of this prospectus is \_\_\_\_\_, 2017

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**PART II**

**INFORMATION NOT REQUIRED IN PROSPECTUS**

**Item 14. Other Expenses of Issuance and Distribution.**

The following table sets forth the expenses to be paid by us, other than underwriting discounts and commissions, in connection with the offering of the securities described in this registration statement. All amounts shown are estimates except for the Securities and Exchange Commission registration fee and FINRA filing fee.

Securities and Exchange Commission registration fee	\$ 10,070
FINRA fee	*
Printing and engraving expenses	*
NASDAQ Global Market listing fees	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees	*
Miscellaneous expenses	*
Total	<u>\$ *</u>

\* These fees and expenses will be based upon the number of securities offerings and the amount of securities offered and accordingly cannot be estimated at this time.

**Item 15. Indemnification of Directors and Officers.**

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 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.

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.

Registrant also has entered into indemnification agreements with its directors and certain of its officers in which 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.

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:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of this registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this registration statement; 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 this registration statement or any material change to such information in this 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 of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 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.

(d) The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act (the "Act") in accordance with the rules and regulations prescribed by the Securities and Exchange Commission under section 305(b)(2) of the Act.

**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

<b>Exhibit Number</b>	<b>Description of Document</b>
1.1	Form of Underwriting Agreement.*
3.1	Plan 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	Articles of Conversion (incorporated herein by reference to Exhibit 3.2 to Registrant's Current Report on Form 8-K filed with the Commission on June 2, 2017).
3.3	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.)
3.4	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.)
3.5	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.)
3.6	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).
3.7	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).
4.1	Form of Indenture **
4.2	Form of Common Stock Certificate.*
4.3	Form of Warrant.*
4.4	Form of Warrant Agreement.*
4.5	Form of Preferred Stock Certificate.*
4.6	Form of Debt Security.*
4.7	Form of Unit Agreement.*
5.1	Opinion of TroyGould PC
5.2	Opinion of Morgan Lewis & Bockius LLP.
12.1	Statement of Computation of Ratio of Earnings to Fixed Charges and Ratio of Combined Fixed Charges and Preferred Stock Dividends (filed with this registration statement).**
23.1	Consent of Marcum LLP
23.2	Consent of Weinberg & Company, P.A.
23.3	Consent of TroyGould PC (included in Exhibit 5.1)

<b>Exhibit Number</b>	<b>Description of Document</b>
23.4	Consent of Morgan Lewis & Bockius LLP (included in Exhibit 5.2).
24.1	Power of Attorney**
25.1	Statement of Eligibility of Trustee on Form T-1 under the Trust Indenture Act of 1939, as amended.***

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\* To be filed, if applicable, subsequent to the effectiveness of this registration statement (1) by an amendment to this registration statement or (2) as an exhibit to a Current Report on Form 8-K and incorporated herein by reference.

\*\* Previously filed

\*\*\* If applicable, to be filed subsequent to the effectiveness of this registration statement pursuant to Section 305(b)(2) of the Trust Indenture Act of 1939, as amended.

**TroyGould PC**  
**1801 Century Park East**  
**16<sup>th</sup> Floor**  
**Los Angeles, California 90067**

July 31, 2017

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

Ladies and Gentlemen:

You have requested our opinion with respect to certain matters in connection with the filing by Iovance Biotherapeutics, Inc., a Delaware corporation (the "Company"), with the Securities and Exchange Commission (the "Commission") of a Post-Effective Amendment No. 1 to Registration Statement on Form S-3 (the "Registration Statement"), including a related prospectus included in the Registration Statement (the "Prospectus"). The Registration Statement relates to the offer by the Company from time to time of up to \$100,000,000 of securities of the Company (collectively, "Securities"), which may include, among other Securities, (1) shares of common stock, par value 0.000041666 per share ("Common Stock"); (2) shares of preferred stock, par value \$0.001 per share ("Preferred Stock"); (3) warrants ("Warrants") to purchase Common Stock, Preferred Stock, or debt securities ("Debt Securities"); and (4) units consisting of shares of Common Stock, shares of Preferred Stock, Debt Securities and/or Warrants ("Units").

The Prospectus contemplates that it will be supplemented in the future by one or more prospectus supplements setting forth the specific terms of each offer and sale of Securities (each, a "Prospectus Supplement").

In connection with this opinion letter, we have examined and relied upon the Registration Statement and the Prospectus, the Company's certificate of incorporation, as amended (the "Certificate of Incorporation"), the Company's bylaws (the "Bylaws"), resolutions of the board of directors of the Company relating to the Registration Statement, the Securities and related matters, and originals or copies certified to our satisfaction of such other records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinions expressed below. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not independently sought to verify such matters.

Our opinions herein are expressed solely with respect to the federal laws of the United States, the internal laws of the State of California, and the Delaware General Corporation Law (including applicable rules and regulations promulgated under the Delaware General Corporation Law and applicable reported judicial decisions interpreting the Delaware General Corporation Law). We neither express nor imply any opinion with respect to any other laws or the laws of any other jurisdiction. The Securities may be issued from time to time on a delayed or continuous basis, and the opinions expressed below concern only laws that are in effect on the date of this opinion letter. 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 opinion 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 herein. Without limiting the generality of the foregoing, we neither express nor imply any opinion regarding the contents of the Registration Statement, the Prospectus, or any Prospectus Supplement other than as expressly stated herein with respect to the issuance of the Securities.

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Based upon and subject to the foregoing and the additional qualifications and limitations set forth below, we are of the opinion that:

1. When the issuance and the terms of sale of shares of Common Stock have been duly authorized and established by the board of directors of the Company in conformity with the Certificate of Incorporation and Bylaws, and such shares have been issued and delivered against payment of their full purchase price and in accordance with the applicable purchase, underwriting, or similar agreement and the terms of the Registration Statement, the Prospectus, and the applicable Prospectus Supplement (and, if issued upon the exercise of Warrants or the conversion of Preferred Stock or Debt Securities, when such shares of Common Stock have been duly issued and delivered as contemplated by the terms of the Warrants, Preferred Stock or Debt Securities, as applicable), such shares of Common Stock will be validly issued, fully paid, and nonassessable.

2. When the issuance and the terms of sale of shares of Preferred Stock have been duly authorized and established by the board of directors of the Company in conformity with the Certificate of Incorporation, including the designations of rights, preferences and privileges of such Preferred Stock, and the Bylaws and such shares have been issued and delivered against payment of their full purchase price and in accordance with the applicable purchase, underwriting, or similar agreement and the terms of the Registration Statement, the Prospectus, and the applicable Prospectus Supplement (and, if issued upon the exercise of Warrants or conversion of Debt Securities, when such shares of Preferred Stock have been duly issued and delivered as contemplated by the terms of the Warrants or Debt Securities, as applicable), such shares of Preferred Stock will be validly issued, fully paid, and nonassessable.

3. When the issuance and the terms of sale of Warrants have been duly authorized and established by the board of directors of the Company and such Warrants have been issued and delivered against payment of their full purchase price and in accordance with the applicable warrant, underwriting, or similar agreement and the terms of the Registration Statement, the Prospectus, and the applicable Prospectus Supplement, such Warrants will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

4. When the issuance and the terms of sale of Units have been duly authorized and established by the board of directors of the Company and such Units have been issued and delivered against payment of their full purchase price and in accordance with the applicable purchase, underwriting, or similar agreement and the terms of the Registration Statement, the Prospectus, and the applicable Prospectus Supplement, such Units will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

With your permission, we have made (and are relying upon) the following assumptions, without any independent investigation or inquiry by us, and our opinions expressed above are subject to, and limited and qualified by the effect of, the following assumptions: (1) all representations, warranties, and other statements as to factual matters that are contained in the documents that we reviewed in connection with this opinion letter are accurate and complete, and all corporate records furnished to us by the Company are accurate and complete; (2) the Registration Statement will be declared effective under the Securities Act of 1933, as amended (the "Securities Act"), prior to the Company's offer and sale of any Securities, and such effectiveness will not be suspended or terminated as of the date of the offer and sale of any Securities; (3) the Company's board of directors will adopt resolutions duly authorizing each offer and sale of Securities and establishing the terms of the sale of such Securities, and such resolutions will not be rescinded and will not be modified in a manner that adversely affects the opinions expressed above; (4) in compliance with the Securities Act and the rules and regulations thereunder, the Company will prepare and file with the Commission a Prospectus Supplement describing the terms of each offering of Securities; (5) a definitive indenture or purchase, underwriting, warrant, or similar agreement will be duly executed and delivered by the Company and the other parties thereto with respect to each offer and sale of Securities; (6) the number of shares of the Company's Common Stock or Preferred Stock, as applicable, to be issued pursuant to the Registration Statement, the Prospectus, and any Prospectus Supplement, together with the number of then-outstanding shares of Common Stock or Preferred Stock, will not exceed the number of shares of Common Stock or Preferred Stock authorized in the Certificate of Incorporation; (7) the purchase price of all Securities will consist solely of cash; (8) in connection with each issuance of Common Stock, Preferred Stock, Warrants, or Units, the Company will duly execute and deliver stock certificates, warrant certificates, or unit certificates, as applicable, in the form filed by the Company as exhibits to the Registration Statement or, with respect to Common Stock or Preferred Stock issued on an uncertificated basis, the Company will comply with applicable law regarding the documentation of uncertificated securities; (9) the Company's offer and sale of Securities, and compliance with any definitive indenture or purchase, underwriting, warrant, or similar agreement pertaining to such offer and sale, will not violate any applicable law, rule, regulation, or public policy or any judgment, order or decree of any court having jurisdiction over the Company; (10) the Company's offer and sale of Securities, and compliance with any definitive indenture or purchase, underwriting, warrant, or similar agreement pertaining to such offer and sale, will not constitute a default under, or a breach of, any agreement to which the Company is a party or is otherwise subject, and neither the Certificate of Incorporation nor the Bylaws will be amended after the date of this opinion letter in a manner that would cause such offer or sale of Securities to constitute a violation of the Certificate of Incorporation or the Bylaws; (11) each Warrant and purchase, underwriting and similar agreement pertaining to the offer and sale of Securities (other than an indenture pertaining to the issuance of Debt Securities) will be governed by the internal laws of the State of California; and (12) with respect to documents that we reviewed in connection with this opinion 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 have the legal capacity to do so.

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Our opinions are subject to: (i) the effect of bankruptcy, insolvency, reorganization, preference, fraudulent transfer, moratorium or other similar laws relating to or affecting the rights and remedies of creditors; (ii) the effect of general principles of equity, whether considered in a proceeding in equity or at law (including the possible unavailability of specific performance or injunctive relief), concepts of materiality, reasonableness, good faith and fair dealing, and the discretion of the court before which a proceeding is brought; (iii) the invalidity under certain circumstances under law or court decisions of provisions providing for the indemnification of or contribution to a party with respect to a liability where such indemnification or contribution is contrary to public policy; and (iv) we express no opinion as to (a) any provision for liquidated damages, default interest, late charges, monetary penalties, make-whole premiums or other economic remedies to the extent such provisions are deemed to constitute a penalty, (b) consents to, or restrictions upon, governing law, jurisdiction, venue, arbitration, remedies or judicial relief, (c) waivers of rights or defenses, (d) any provision requiring the payment of attorneys' fees, where such payment is contrary to law or public policy, (e) the creation, validity, attachment, perfection, or priority of any lien or security interest, (f) advance waivers of claims, defenses, rights granted by law, or notice, opportunity for hearing, evidentiary requirements, statutes of limitation, trial by jury or at law, or other procedural rights, (g) waivers of broadly or vaguely stated rights, (h) provisions for exclusivity, election or cumulation of rights or remedies, (i) provisions authorizing or validating conclusive or discretionary determinations, (j) grants of setoff rights, (k) proxies, powers and trusts, (l) provisions prohibiting, restricting, or requiring consent to assignment or transfer of any right or property, (m) any provision to the extent it requires that a claim with respect to a security denominated in other than U.S. dollars (or a judgment in respect of such a claim) be converted into U.S. dollars at a rate of exchange at a particular date, to the extent applicable law otherwise provides, and (n) the severability, if invalid, of provisions to the foregoing effect.

This opinion letter is provided in connection with the transactions contemplated by the Registration Statement and may not be used or relied upon for any other purpose without our express written consent. The only opinions rendered by us consists of those set forth above, and no opinion may be implied or inferred beyond that expressly stated.

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We hereby consent to the filing of this opinion letter as an exhibit to the Registration Statement and further consent to the use of our name under the heading "Legal Matters" in the Prospectus. 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

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# Morgan Lewis

July 31, 2017

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

Re: Iovance Biotherapeutics, Inc. – Post-Effective Amendment No. 1 to Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as special counsel to Iovance Biotherapeutics, Inc., a Delaware corporation (the “**Company**”), in connection with the filing of Post-Effective Amendment No. 1 to Registration Statement on Form S-3 (the “**Registration Statement**”), filed with the Securities and Exchange Commission on the date hereof, under the Securities Act of 1933, as amended (the “**Securities Act**”). The Registration Statement includes a prospectus (the “**Prospectus**”) that provides that it may be supplemented in the future by one or more supplements to the Prospectus (each, a “**Prospectus Supplement**”). The Prospectus, as it may be supplemented by one or more Prospectus Supplements, relates to the proposed offering and sale from time to time, pursuant to Rule 415 under the Securities Act, of up to \$100,000,000 in the aggregate of, among other things, debt securities of the Company (the “**Debt Securities**”).

In connection with this opinion letter, we have examined the Registration Statement and originals, or copies certified or otherwise identified to our satisfaction, of (i) the Form of Indenture (the “**Base Indenture**”) by and between the Company and the trustee to be named therein (the “**Trustee**”) filed as Exhibit 4.1 to the Registration Statement, (ii) certain resolutions of the Company’s Board of Directors relating to the Registration Statement, and (iii) such other documents, records and other instruments as we have deemed appropriate for purposes of the opinion set forth herein.

We have assumed the genuineness of all signatures, the legal capacity of all natural persons, the authenticity of the documents submitted to us as originals, the conformity with the originals of all documents submitted to us as certified, facsimile or photostatic copies and the authenticity of the originals of all documents submitted to us as copies. With respect to matters of fact relevant to our opinion as set forth below, we have relied upon certificates of officers of the Company, representations made by the Company in documents examined by us and representations of officers of the Company. We have also obtained and relied upon such certificates and assurances from public officials as we have deemed necessary for the purposes of our opinion set forth below.

**Morgan, Lewis & Bockius LLP**

101 Park Avenue  
New York, NY 10178-0060  
United States

📞 +1.212.309.6000  
📠 +1.212.309.6001

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For the purpose of the opinion set forth below, we have also assumed, without independent investigation or verification, that:

A. the issuance, sale, number or amount, as the case may be, and terms of Debt Securities to be offered from time to time will be duly authorized and established, in accordance with the Amended and Restated Articles of Incorporation of the Company, the Amended and Restated Bylaws of the Company and applicable Delaware law (each, a “**Corporate Action**”), and will not conflict with or constitute a breach of the terms of any agreement or instrument to which the Company is subject;

B. each series of Debt Securities will be issued under the Base Indenture and any necessary amendment or supplement thereto (collectively, the “**Indenture**”) between the Company and the Trustee, and the execution, delivery and performance of the Indenture will be duly authorized by Corporate Action, and will not conflict with or constitute a breach of the terms of any agreement or instrument to which the Company is subject;

C. to the extent that the obligations of the Company under the Indenture may depend upon such matters, the Trustee will be duly organized, validly existing and in good standing under the laws of its jurisdiction of organization; that the Trustee will be duly qualified to engage in the activities contemplated by the Indenture; that the Indenture will be duly authorized, executed and delivered by the Trustee and will constitute the legal, valid and binding obligation of such Trustee, enforceable against the Trustee in accordance with its terms; that the Trustee will be in compliance, generally and with respect to acting as a trustee under the Indenture, with all applicable laws and regulations, and that the Trustee will have the requisite organizational and legal power and authority to perform its obligations under such Indenture;

D. the Registration Statement and any amendments thereto (including post-effective amendments) will have become effective and such effectiveness shall not have been terminated or rescinded and will comply with all applicable federal and state laws at the time the Debt Securities are offered and issued as contemplated by the Registration Statement;

E. a Prospectus Supplement will have been prepared, delivered (including through compliance with Rule 172 of the General Rules and Regulations promulgated under the Act) and filed with the Commission describing the Debt Securities offered thereby and will comply with all applicable laws at the time the Debt Securities are offered and issued as contemplated by the Registration Statement;

F. all Debt Securities will be issued and sold in compliance with applicable federal and state securities laws; and

G. a definitive purchase, underwriting or similar agreement (each, a “**Definitive Agreement**”) with respect to any Debt Securities offered or issued will have been duly authorized and validly executed and delivered by the Company and the other parties thereto.

Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof:

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When the Indenture has been qualified under the Trust Indenture Act of 1939, as amended, the particular series of Debt Securities has been duly established in accordance with the terms of the applicable Indenture, the specific terms of a particular issuance of Debt Securities have been duly authorized by Corporate Action and are in accordance with the terms of the Indenture, the Indenture is duly executed and delivered by the Company, and such Debt Securities have been duly executed, authenticated, completed, issued and delivered, against payment for such Debt Securities, in accordance with the terms and provisions of the applicable Definitive Agreements, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement, and, if applicable, upon the conversion, exchange or exercise of any other securities issued by the Company in accordance with their respective terms, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement, such Debt Securities will be validly issued and will constitute valid and binding obligations of the Company, and the Indenture will constitute a valid and binding obligation of the Company, except, with respect to each of the Debt Securities and the Indenture, as enforcement may be limited by applicable bankruptcy, insolvency, reorganization, arrangement, moratorium or other similar laws affecting creditors' rights, and subject to general equity principles and to limitations on availability of equitable relief, including specific performance.

The foregoing opinion is limited to the laws of the State of New York, and we express no opinion with respect to the laws of any other state or jurisdiction. Although the Debt Securities may be issued from time to time on a delayed or continuous basis, the opinion expressed herein is limited to the laws, including rules and regulations, as in effect on the date hereof.

The opinion letter is limited to the matters stated herein and no opinions may be implied or inferred beyond that matters expressly stated herein. The opinion expressed herein is as of the date hereof and we assume no obligation to update or supplement such opinion to reflect any facts or circumstances that may hereafter come to our attention or any changes in the law that may hereafter occur.

We consent to your filing this opinion as an exhibit to the Registration Statement and to the reference to our firm under the caption "Legal Matters" in the Prospectus. In giving such consent, we do not hereby admit that we are acting within the category of persons whose consent is required under Section 7 of the Securities Act or the rules or regulations of the Securities and Exchange Commission thereunder.

Very truly yours,

/s/ Morgan, Lewis & Bockius LLP

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**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. 333-215320) 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

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**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in this Post-Effective Amendment No. 1 to Registration Statement on Form S-3 (File No. 333-215320) 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 then 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

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