

PROSPECTUS SUPPLEMENT
(To Prospectus dated June 16, 2023)**Up to \$350,000,000****Common Stock**

We entered into an Amended and Restated Open Market Sale Agreement SM, dated August 22, 2025, or the Sale Agreement, with Jefferies LLC, or Jefferies, relating to shares of our common stock offered by this prospectus supplement. The Sale Agreement superseded and replaced the Open Market Sale Agreement SM, dated June 16, 2023 between us and Jefferies. In accordance with the terms of the Sale Agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to \$350,000,000 from time to time through Jefferies acting as our sales agent.

Our common stock trades on The Nasdaq Global Market under the symbol "IOVA." On August 19, 2025, the last reported sale price of our common stock on The Nasdaq Global Market was \$2.60 per share.

Sales of our common stock, if any, under this prospectus supplement and the accompanying prospectus will be made in sales deemed to be "at the market offerings" as defined in Rule 415(a)(4) promulgated under the Securities Act of 1933, as amended, or the Securities Act. Jefferies is not required to sell any specific amount of securities, but will act as our sales agent using commercially reasonable efforts consistent with its normal trading and sales practices, on mutually agreed terms between Jefferies and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

The compensation to Jefferies for sales of common stock sold pursuant to the Sale Agreement will be an amount equal to up to 3% of the gross proceeds of any shares of common stock sold under the Sale Agreement. See "Plan of Distribution" beginning on page [S-7](#) for additional information regarding the compensation to be paid to Jefferies. In connection with the sale of the common stock on our behalf, Jefferies will be deemed to be an "underwriter" within the meaning of the Securities Act and the compensation to Jefferies will be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to Jefferies with respect to certain liabilities, including liabilities under the Securities Act or the Securities Exchange Act of 1934, as amended, or the Exchange Act.

Investing in our common stock involves a high degree of risk. You should read this prospectus supplement and the documents incorporated by reference herein before you make your investment decision. Please read "Risk Factors" beginning on page [S-4](#) of this prospectus supplement, on page 3 of the accompanying prospectus, and in the documents incorporated by reference into this prospectus supplement and the accompanying prospectus, including our annual report on Form 10-K and our quarterly reports on Form 10-Q, to read about the risks that you should consider before purchasing shares of our common stock.

Neither the Securities and Exchange Commission, or the SEC, nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

JefferiesProspectus Supplement dated August 22, 2025

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Neither we nor Jefferies have authorized anyone to provide any information or to make any representations other than those contained or incorporated by reference in this prospectus supplement or the accompanying prospectus. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus supplement and the accompanying prospectus together constitute an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus supplement and the accompanying prospectus is current only as of its date. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein when making your investment decision. You should also read and consider the information in the documents we have referred you to in the section of the accompanying prospectus entitled “Incorporation of Certain Information by Reference.”

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus form part of an automatic registration statement on Form S-3ASR that we filed with the SEC utilizing a “shelf” registration process. This document contains two parts. The first part consists of this prospectus supplement, which provides you with specific information about this offering. The second part, the accompanying prospectus, provides more general information, some of which may not apply to this offering. Generally, when we refer only to the “prospectus,” we are referring to both parts combined. This prospectus supplement may add, update or change information contained in the accompanying prospectus. To the extent that any statement we make in this prospectus supplement is inconsistent with statements made in the accompanying prospectus or any documents incorporated by reference herein or therein, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying prospectus and such documents incorporated by reference herein and therein. You should read this prospectus supplement and the accompanying prospectus, including the information incorporated by reference herein and therein.

You should rely only on the information that we have included or incorporated by reference in this prospectus supplement and the accompanying prospectus. We have not authorized any dealer, salesman or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus supplement or the accompanying prospectus. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus supplement or the accompanying prospectus. This prospectus supplement and the accompanying prospectus 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 does this prospectus supplement or the accompanying prospectus 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 supplement or the accompanying prospectus is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference herein or therein is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus supplement or accompanying prospectus is delivered, or securities are sold, on a later date.

This prospectus supplement contains or incorporates by reference summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been or will be filed or have been or will be incorporated by reference as exhibits to the registration statement of which this prospectus supplement forms apart, and you may obtain copies of those documents as described in this prospectus supplement under the heading “Where You Can Find More Information.”

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus and the documents incorporated herein or therein by reference contain forward-looking statements that are based on management's beliefs and assumptions and on information currently available to management. All statements other than statements of historical facts contained in this report are forward-looking statements. In some cases, you can identify forward-looking statements by the following words: "may," "will," "might," "could," "would," "should," "expect," "intend," "plan," "anticipate," "believe," "estimate," "predict," "project," "aim," "potential," "continue," "ongoing," "goal," "forecast," "guidance," "outlook," or the negative of these terms or other similar expressions, although not all forward-looking statements contain these words.

These statements involve risks, uncertainties and other factors that may cause actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. Although we believe that we have a reasonable basis for each forward-looking statement contained in this report, we caution you that these statements are based on a combination of facts and factors currently known by us and our projections of the future, about which we cannot be certain. Forward-looking statements in this prospectus supplement and the documents incorporated herein by reference include, but are not limited to, statements about:

- the success, cost, enrollment, and timing of our clinical trials;
- the success, cost, and timing of our product development activities;
- the ability of us or our third-party contract manufacturers to continue to manufacture tumor infiltrating lymphocytes, or TIL, in accordance with our selected process;
- our ability to design, construct, and staff our own manufacturing facility on a timely basis and within the estimated expenses;
- the success of competing therapies that are or may become available;
- regulatory developments in the United States of America, or U.S., and foreign countries;
- the timing of and our ability to obtain and maintain U.S. Food and Drug Administration, or the FDA, European Commission, or other regulatory authority approval of, or other action with respect to, our products and/or product candidates;
- our ability to attract and retain key scientific or management personnel;
- the timing, execution and expected benefits of our restructuring plan announced in August 2025;
- the accuracy of our estimates regarding expenses, future revenue, capital requirements, and needs for additional financing;
- our ability to obtain funding for our operations, including funding necessary to complete further development of our product candidates and commercialization of our products;
- our ability to successfully commercialize Amtagvi[®] (lifileucel) and Proleukin[®] (aldesleukin), and any other products and/or product candidates for which we obtain or have obtained FDA or other regulatory approvals, including by the European Commission in the European Union, or the EU;
- the ability and willingness of our third-party research institution collaborators to continue research and development activities relating to our product candidates;
- the potential of our other research and development and strategic collaborations;
- our expectations regarding our ability to obtain and maintain intellectual property protection for our manufacturing methods and products and/or product candidates;
- our plans to research, develop, and commercialize our products and/or product candidates;
- the size and growth potential of the markets for our products and/or product candidates, and our ability to serve those markets;
- our ability to contract with third-party suppliers and manufacturers and their ability to perform adequately;

- fluctuations in the trading price of our common stock; and
- our use of cash and other resources.

Actual results may differ from those set forth in this prospectus supplement and the documents incorporated herein by reference due to the risks and uncertainties inherent in our business, including those provided in the foregoing list of forward-looking statements and also including, without limitation: the FDA may not agree with our interpretation of the results of our clinical trials; later developments with the FDA that may be inconsistent with already completed FDA meetings; the preliminary clinical results, including efficacy and safety results, from ongoing Phase 2 and Phase 3 clinical trials may not be reflected in the final analyses of these clinical trials including new cohorts within these clinical trials; the results obtained in our ongoing clinical trials, such as the studies and clinical trials referred to in this prospectus supplement and the documents incorporated herein by reference, may not be indicative of results obtained in future clinical trials or supportive of product approval; regulatory authorities may potentially delay the timing of FDA or other regulatory authority approval of, or other action with respect to, our product candidates, specifically, our description of FDA interactions are subject to the FDA's interpretation, as well as the FDA's authority to request new or additional information; we may not be able to obtain or maintain FDA or other regulatory authority approval of our product candidates; our ability to address FDA or other regulatory authority requirements relating to our clinical programs and registrational plans, such requirements including, but not limited to, clinical and safety requirements, as well as manufacturing and control requirements; risks related to our accelerated FDA review designations; our ability to obtain and maintain intellectual property rights relating to our product pipeline; and the acceptance by the market of our product candidates and their potential reimbursement by payors, if approved.

We caution you that the risks, uncertainties and other factors referenced above may not contain all the risks, uncertainties and other factors that are important to you. In addition, we cannot guarantee future results, level of activity, performance or achievements. Any forward-looking statement made by us in this prospectus supplement or the documents incorporated herein by reference speaks only as of the date of this prospectus supplement, the dates of the documents incorporated herein by reference or as of the date on which it is made, as applicable. Except as required by law, we undertake no obligation to publicly update any forward-looking statements, whether because of new information, future events or otherwise.

We may discuss certain of these risks and uncertainties in greater detail 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 supplement, including our most recent Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q filed with the SEC.

We qualify all of our forward-looking statements by these cautionary statements. In addition, with respect to all of our forward-looking statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

SUMMARY

This summary highlights information contained in other parts of this prospectus supplement. Because it is only a summary, it does not contain all of the information that you should consider before investing in shares of our common stock and it is qualified in its entirety by, and should be read in conjunction with, the more detailed information appearing elsewhere in this prospectus supplement, the accompanying prospectus, and the documents incorporated by reference herein and therein. You should read all such documents carefully, especially the risk factors and our financial statements and the related notes included or incorporated by reference herein or therein, before deciding to buy shares of our common stock. Unless the context requires otherwise, references in this prospectus to “Iovance,” the “Company,” “we,” “us” and “our” refer to Iovance Biotherapeutics, Inc.

Company Overview

We are a commercial-stage biopharmaceutical company pioneering a transformational approach to treating cancer by harnessing the human immune system’s ability to recognize and destroy diverse cancer cells using therapies personalized for each patient. Our mission is to be the global leader in innovating, developing and delivering tumor infiltrating lymphocyte, or TIL, cell therapies for patients with solid tumor cancers. We are executing the U.S. launch of Amtagvi® (lifileucel), the first product within our autologous TIL cell therapy platform, while also marketing Proleukin® (aldesleukin), an interleukin-2, or IL-2, product used in the Amtagvi® treatment regimen and in other applications. Amtagvi® is the first and the only one-time, individualized T cell therapy to receive U.S. Food and Drug Administration, or the FDA, approval for a solid tumor cancer. Amtagvi® is a tumor-derived autologous T cell immunotherapy indicated for the treatment of adult patients with unresectable or metastatic melanoma previously treated with a PD-1 blocking antibody, and if BRAF V600 mutation positive, a BRAF inhibitor with or without a MEK inhibitor. This indication was approved in February 2024 under accelerated approval based on an endpoint of overall response rate, or ORR. Continued approval for this indication may be contingent upon verification and description of clinical benefit in future confirmatory trials. Amtagvi® and Proleukin® are part of a treatment regimen that also includes lymphodepletion.

Beyond the U.S., we plan to launch Amtagvi® into additional markets with a high prevalence of advanced melanoma, including United Kingdom, or UK, Canada, Australia, Switzerland, and European Union, or EU. In August 2025, Health Canada issued a Notice of Compliance with Conditions, or NOC/c, for Amtagvi®, making Amtagvi® the first and only approved therapy in this treatment setting in Canada. In June 2024, we submitted a centralized marketing authorization application, or MAA, to the European Medicines Agency, or the EMA, for lifileucel which was validated and accepted for review by the EMA in August 2024. Following interactions with EMA’s Committee for Medicinal Products for Human Use, or CHMP, Iovance notified EMA of its decision to withdraw the MAA and is working to determine a resubmission strategy. An MAA was submitted to the Medicines and Healthcare Products Regulatory Agency in the UK and is on track for potential approval and launch in the first half of 2026. Australia’s Therapeutic Goods Administration granted Priority Review to Amtagvi® with a decision anticipated by early 2026, and the Swiss Medic recommended Priority Review ahead of the Swiss regulatory submission planned in the fourth quarter of 2025. Across the U.S. and other targeted global markets, Amtagvi® has the potential to address more than 20,000 previously treated advanced melanoma patients annually.

Iovance was founded to build upon the promise of TIL cell therapy that was previously demonstrated in single-center clinical trials at academic research centers, including the National Cancer Institute, or the NCI. Our multi-center trials, novel TIL cell therapy products, manufacturing processes, facilities, and bioanalytical platforms have transformed TIL cell therapy into a commercially viable treatment which thousands of patients with cancer can access.

We manufacture Amtagvi® and our investigational TIL cell therapies using centralized, scalable, and proprietary manufacturing processes which rejuvenate and multiply polyclonal T cells unique to each patient into the billions and yields a cryopreserved, individualized therapy. Amtagvi® is manufactured for commercial use at our manufacturing facility, the Iovance Cell Therapy Center, or the iCTC, and by a contract manufacturing organization, or CMO.

Our development pipeline includes multicenter trials of TIL cell therapies in additional treatment settings and indications for solid tumor cancers. To potentially improve outcomes for patients, we are

investigating TIL monotherapies for patients previously treated with standard of care therapies and TIL cell therapy in combination with standard of care therapies for patients in earlier treatment settings. We are conducting two ongoing registrational trials to support a supplementary BLA, or sBLA, of lifileucel in frontline advanced melanoma and in advanced non-small cell lung cancer, or NSCLC, following standard of care chemo-immunotherapy. We are also developing next generation therapies, such as genetically modified TIL cell therapy and next generation cytokines.

Corporate Information

Information concerning the Company is contained in the documents that we file with the SEC as a reporting company under the Securities Exchange Act of 1934, as amended, or the Exchange Act, which are accessible at www.sec.gov, and on our website at www.iovance.com. The information contained on, or that can be accessed through, our website is not a part of this prospectus, other than the documents that the Company files with the SEC that are expressly incorporated by reference into this prospectus supplement. Investors should not rely on any such information in deciding whether to purchase our common stock. We have included our website address in this prospectus solely as an inactive textual reference.

Our principal executive offices are located at 825 Industrial Road, Suite 100, San Carlos, California 94070, and our telephone number is (650) 260-7120.

THE OFFERING

Issuer	Iovance Biotherapeutics, Inc.
Common stock offered by us	Shares of our common stock having an aggregate offering price of \$350.0 million.
Common stock outstanding after this offering	Up to 476,534,749 shares of our common stock (as more fully described in the notes following this table), assuming sales of 134,615,385 shares of our common stock in this offering at an offering price of \$2.60 per share, the last reported sale price of our common stock on The Nasdaq Global Market on August 19, 2025. The actual number of shares issued will vary depending on the sales price under this offering.
Plan of Distribution	“At the market” offering that may be made from time to time through our sales agent, Jefferies. See “Plan of Distribution” on page S-7 of this prospectus supplement.
Use of Proceeds	We intend to use the net proceeds from this offering to further the commercial launch of Amtagvi™, to fund ongoing clinical programs, including our NSCLC registrational study, IOV-LUN-202, and our frontline advanced melanoma Phase 3 confirmatory trial, TILVANCE-301, to support additional clinical programs, to continue the development of our pipeline candidates, and for other general corporate purposes. See “Use of Proceeds.”
Risk Factors	You should read the “Risk Factors” section beginning on page S-4 of this prospectus supplement, page 3 of the accompanying prospectus and the documents incorporated by reference into this prospectus supplement for a discussion of factors to consider carefully before deciding to invest in shares of our common stock.
The Nasdaq Global Market symbol	“IOVA.”
The number of shares of our common stock to be outstanding after this offering is based on 341,919,364 shares of our common stock outstanding as of June 30, 2025, and excludes: • 18,994,381 shares of common stock issuable upon the exercise of stock options outstanding as of June 30, 2025, at a weighted average exercise price of \$16.09 per share; • 11,411,549 shares of common stock issuable upon the vesting of restricted stock units, or RSUs, outstanding as of June 30, 2025, with a weighted average grant date fair value of \$8.43 per share; • 97,000 shares of common stock issuable upon the conversion of shares of Series A Convertible Preferred Stock outstanding as of June 30, 2025; • 1,932,667 shares of common stock issuable upon the conversion of shares of Series B Convertible Preferred Stock outstanding as of June 30, 2025; • 16,709,066 shares of common stock reserved for future issuance under our 2018 Equity Incentive Plan as of June 30, 2025; • 50,109 shares of common stock reserved for future issuance under our 2021 Inducement Plan as of June 30, 2025; and • 1,254,940 shares of common stock reserved for future issuance under our 2020 Employee Stock Purchase Plan as of June 30, 2025.	

RISK FACTORS

An investment in our common stock involves a high degree of risk. Before deciding whether to invest in our common stock, you should carefully consider the risks described below and those discussed under the Sections captioned “Risk Factors” contained in our [Annual Report on Form 10-K for the year ended December 31, 2024](#) and in our Quarterly Reports on Form 10-Q for the quarters ended [March 31, 2025](#) and [June 30, 2025](#), each of which is incorporated by reference in this prospectus supplement and the accompanying prospectus, together with other information in this prospectus supplement, the accompanying prospectus, and the information and documents incorporated by reference herein and therein. If any of these risks actually occur, our business, financial condition, results of operations or cash flow could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment.

Risks Related to This Offering and Our Common Stock

You will experience immediate and substantial dilution in the net tangible book value per share of the common stock you purchase. You may also experience future dilution as a result of future equity offerings.

The public offering price of our common stock may exceed the net tangible book value per share of our common stock before giving effect to this offering. Therefore, if you purchase common stock in this offering, you may pay a price per share that exceeds our as adjusted net tangible book value per share of common stock. Our historical net tangible book value at June 30, 2025, was approximately \$402.2 million, or approximately \$1.18 per share of our common stock. Assuming that an aggregate of 134,615,385 shares of our common stock are sold at an assumed offering price of \$2.60 per share, the last reported sale price of our common stock on The Nasdaq Global Market on August 19, 2025, for aggregate gross proceeds of \$350.0 million, and after deducting commissions and estimated offering expenses payable by us, our adjusted net tangible book value as of June 30, 2025, would have been approximately \$744.8 million, or approximately \$1.56 per share of our common stock. This represents an immediate increase in the net tangible book value of approximately \$0.38 per share of our common stock to our existing stockholders and an immediate dilution in net tangible book value of approximately \$1.04 per share of our common stock to new investors, representing the difference between the public offering price and our as adjusted net tangible book value as of June 30, 2025, after giving effect to this offering, and the assumed offering price. Furthermore, if outstanding options or warrants are exercised, you could experience further dilution. Because the sales of shares offered hereby will be made directly into the market, the prices at which we sell these shares will vary and these variations may be significant. Purchasers of the shares we sell, as well as our existing stockholders, will experience significant dilution if we sell at prices significantly below the price at which they invested.

In addition, we have a significant number of stock options and restricted stock units outstanding, and, in order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share in this offering. In the event that the outstanding options or restricted stock units are exercised or settled, or that we make additional issuances of common stock or other convertible or exchangeable securities, you could experience additional dilution. We cannot assure you that we will be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders, including investors who purchase shares of common stock in this offering. The price per share at which we sell additional shares of our common stock or securities convertible into common stock in future transactions may be higher or lower than the price per share in this offering.

A substantial number of shares of common stock may be sold in the market following this offering, which may depress the market price for our common stock.

The shares of common stock sold in this offering may be resold in the public market at any time. In addition, as of June 30, 2025, the following securities initially issued in a private placement, consisting of (i) up to 12,822,361 shares of common stock, (ii) 1,932,667 shares of common stock issuable upon the conversion of outstanding shares of our Series B Convertible Preferred Stock and (iii) 97,000 shares of our common stock issuable upon the conversion of currently outstanding shares of our Series A Convertible

Preferred Stock, may be resold in the public market in the future. Further, certain shares of our common stock that are currently outstanding but have not been registered for resale may currently be sold under Rule 144 under the Securities Act. Sales of a substantial number of these shares in the public market following this offering, or the perception that those sales may occur, could cause the market price of our common stock to decline.

We have broad discretion to determine how to use the funds raised in this offering and may use them in ways that may not enhance our operating results or the price of our common stock.

Our management will have broad discretion over the use of proceeds from this offering, and we could spend the proceeds from this offering in ways our stockholders may not agree with or that do not yield a favorable return, if at all. We intend to use the net proceeds from this offering to further the commercial launch of Amtagvi™, to fund ongoing clinical programs, including our NSCLC registrational study, IOV-LUN-202, and our frontline advanced melanoma Phase 3 confirmatory trial, TILVANCE-301, to support additional clinical programs, to continue the development of our pipeline candidates, and for other general corporate purposes. However, our use of these proceeds may differ substantially from our current plans. If we do not invest or apply the proceeds of this offering in ways that improve our operating results, we may fail to achieve expected financial results, which could cause our stock price to decline.

It is not possible to predict the actual number of shares we will sell under the Sale Agreement, or the gross proceeds resulting from those sales.

Subject to certain limitations in the Sale Agreement and compliance with applicable law, we have the discretion to deliver instruction to Jefferies to sell shares of our common stock at any time throughout the term of the Sale Agreement. The number of shares, if any, that are sold through Jefferies after our instruction will fluctuate based on a number of factors, including the market price of our common stock during the sales period, the limits we set with Jefferies in any instruction to sell shares, and the demand for our common stock during the sales period. Because the price per share of each share sold, if any, will fluctuate during this offering, it is not currently possible to predict the number of shares that will be sold or the gross proceeds to be raised in connection with those sales.

The common stock offered hereby will be sold in “at the market offerings,” and investors who buy shares at different times will likely pay different prices.

Investors who purchase shares in this offering at different times will likely pay different prices, and so may experience different levels of dilution and different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares sold in this offering. In addition, subject to the final determination by our board of directors, there is no minimum or maximum sales price for shares to be sold in this offering. Investors may experience a decline in the value of the shares they purchase in this offering as a result of sales made at prices lower than the prices they paid.

USE OF PROCEEDS

We may issue and sell shares of our common stock having aggregate gross proceeds of up to \$350.0 million from time to time. Because there is no minimum offering price for the shares that we may offer from time to time, the actual total public offering amount, commissions paid and proceeds to us, if any, are not determinable at this time. There can be no assurance that we will sell any shares under or fully utilize the Sale Agreement with Jefferies as a source of financing.

We intend to use the net proceeds from this offering to further the commercial launch of Amtagvi™, to fund ongoing clinical programs, including our NSCLC registrational study, IOV-LUN-202, and our frontline advanced melanoma Phase 3 confirmatory trial, TILVANCE-301, to support additional clinical programs, to continue the development of our pipeline candidates, and for other general corporate purposes.

These expected uses represent our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our development, the status of and results from clinical trials, and any unforeseen cash needs. As a result, our management will have broad discretion in the application of the net proceeds from this offering, and investors will be relying on the judgment of our management regarding the application of the net proceeds from this offering. The timing and amount of our actual expenditures will be based on many factors, including cash flows from operations and the anticipated growth of our business.

PLAN OF DISTRIBUTION

We have entered into a Sale Agreement with Jefferies, under which we may offer and sell up to \$350.0 million of our shares of common stock from time to time through Jefferies acting as agent. Sales of our shares of common stock, if any, under this prospectus supplement and the accompanying prospectus will be made by any method that is deemed to be an “at the market offering” as defined in Rule 415(a)(4) under the Securities Act.

Each time we wish to issue and sell shares of common stock under the Sale Agreement, we will notify Jefferies of the number of shares to be issued, the dates on which such sales are anticipated to be made, any limitation on the number of shares to be sold in any one day and any minimum price below which sales may not be made. Once we have so instructed Jefferies, unless Jefferies declines to accept the terms of such notice, Jefferies has agreed to use its commercially reasonable efforts consistent with its normal trading and sales practices to sell such shares up to the amount specified on such terms. The obligations of Jefferies under the Sale Agreement to sell our shares of common stock are subject to a number of conditions that we must meet.

The settlement of sales of shares between us and Jefferies is generally anticipated to occur on the second trading day (or such shorter period as may be required under the Exchange Act) following the date on which the sale was made. Sales of our shares of common stock as contemplated in this prospectus supplement will be settled through the facilities of The Depository Trust Company or by such other means as we and Jefferies may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

We will pay Jefferies a commission of up to 3.0% of the aggregate gross proceeds we receive from each sale of our shares of common stock. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. In addition, we have agreed to reimburse Jefferies for the fees and disbursements of its counsel, payable upon execution of this Sale Agreement, in an amount not to exceed \$100,000, in addition to certain ongoing disbursements of its legal counsel. We estimate that the total expenses for the offering, excluding any commissions or expense reimbursement payable to Jefferies under the terms of the Sale Agreement, will be approximately \$475,000. The remaining sale proceeds, after deducting any other transaction fees, will equal our net proceeds from the sale of such shares.

Jefferies will provide written confirmation to us before the open on The Nasdaq Global Market on the day following each day on which our shares of common stock are sold under the Sale Agreement. Each confirmation will include the number of shares sold on that day, the aggregate gross proceeds of such sales and the proceeds to us.

In connection with the sale of our shares of common stock on our behalf, Jefferies will be deemed to be an “underwriter” within the meaning of the Securities Act, and the compensation of Jefferies will be deemed to be underwriting commissions or discounts. We have agreed to indemnify Jefferies against certain civil liabilities, including liabilities under the Securities Act. We have also agreed to contribute to payments Jefferies may be required to make in respect of such liabilities.

The offering of our shares of common stock pursuant to the Sale Agreement will terminate upon the earlier of (i) the sale of all shares of common stock subject to the Sale Agreement and (ii) the termination of the Sale Agreement as permitted therein. We and Jefferies may each terminate the Sale Agreement at any time upon ten days’ prior notice.

This summary of the material provisions of the Sale Agreement does not purport to be a complete statement of its terms and conditions. A copy of the Sale Agreement is filed as an exhibit to our Current Report on Form 8-K filed with the SEC on August 22, 2025 under the Securities Exchange Act of 1934, as amended, and incorporated by reference in this prospectus supplement.

Jefferies and its affiliates may in the future provide various investment banking, commercial banking, financial advisory and other financial services for us and our affiliates, for which services they may in the future receive customary fees. In the course of its business, Jefferies may actively trade our securities for its own account or for the accounts of customers, and, accordingly, Jefferies may at any time hold long or short

positions in such securities. For example, Jefferies acted as an underwriter in our follow-on offering of common stock consummated in June 2020, for which it received compensation.

A prospectus supplement and the accompanying prospectus in electronic format may be made available on a website maintained by Jefferies, and Jefferies may distribute the prospectus supplement and the accompanying prospectus electronically.

LEGAL MATTERS

The validity of the common stock being offered in this offering will be passed upon for us by DLA Piper LLP (US), Short Hills, New Jersey. Certain legal matters related to this offering will be passed upon for Jefferies by Latham & Watkins LLP, San Diego, California.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our [Annual Report on Form 10-K for the year ended December 31, 2024](#), and the effectiveness of our internal control over financial reporting as of December 31, 2024, as set forth in their reports, which are incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's reports, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus supplement and the accompanying prospectus form part of an automatic “shelf” registration statement on Form S-3ASR that we filed with the SEC. This prospectus supplement and the accompanying prospectus do not contain all of the information set forth in the registration statement and the exhibits to the registration statement or the documents incorporated by reference herein and therein. For further information with respect to us and the securities that we are offering under this prospectus supplement, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement and the documents incorporated by reference herein and therein. You should rely only on the information contained in this prospectus supplement or the accompanying prospectus or incorporated by reference herein or therein. We have not authorized anyone else to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front page of this prospectus supplement, regardless of the time of delivery of this prospectus supplement or any sale of the securities offered hereby. The SEC maintains a website that contains reports, proxy statements and other information regarding issuers that file electronically with the SEC, including Iovance Biotherapeutics, Inc. The address of the SEC website is www.sec.gov.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy the registration statement, as well as any other document filed by us with the SEC at the website of the SEC referred to above. We maintain a website at www.iovance.com where you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained in or accessible through our website does not constitute a part of this prospectus supplement.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” information into this prospectus supplement, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The SEC file number for the documents incorporated by reference in this prospectus is 001-36860. The documents incorporated by reference into this prospectus supplement contain important information that you should read about us.

The following documents are incorporated by reference into this document (other than the portions of these documents deemed to be “furnished” or not deemed to be “filed,” including the portions of these documents that are furnished under Item 2.02 or Item 7.01 of a Current Report on Form 8-K, including any exhibits included with such Items):

- [our Annual Report on Form 10-K for the year ended December 31, 2024, filed with the SEC on February 27, 2025](#);
- the information included in our [definitive proxy statement on Schedule 14A for our 2025 Annual Meeting of Stockholders, filed with the SEC on April 28, 2025](#), to the extent incorporated by reference in Part III of our [Annual Report on Form 10-K for the year ended December 31, 2024](#);
- our Quarterly Reports on Form 10-Q for the quarter ended March 31, 2025, filed with the SEC on [May 8, 2025](#), and the quarter ended June 30, 2025, filed with the SEC on [August 7, 2025](#);
- our Current Reports on Form 8-K filed with the SEC on [February 10, 2025](#), [June 10, 2025](#), [June 13, 2025](#), [July 3, 2025](#), [July 15, 2025](#), [August 7, 2025](#), and [August 19, 2025](#); 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.

We also incorporate by reference into this prospectus all documents (other than the portions of such documents deemed to be “furnished” or not deemed to be “filed,” including the portions of these documents that are furnished under Item 2.02 or Item 7.01 of a Current Report on Form 8-K, including any exhibits included with such Items) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus supplement but prior to the termination of the offering. These documents include periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements.

We will provide to each person, including any beneficial owner, to whom a prospectus is delivered, without charge upon written or oral request, a copy of any or all of the documents that are incorporated by reference into this prospectus but not delivered with the prospectus, including exhibits which are specifically incorporated by reference into such documents. Requests should be directed to: Iovance Biotherapeutics, Inc., Attn: Investor Relations, 825 Industrial Road, Suite 100, San Carlos, California 94070.

Any statement contained herein or in a document incorporated or deemed to be incorporated by reference into this document will be deemed to be modified or superseded for purposes of the document to the extent that a statement contained in this document or any other subsequently filed document that is deemed to be incorporated by reference into this document modifies or supersedes the statement.

PROSPECTUS

IOVANCE BIOTHERAPEUTICS, INC.**Common Stock****Preferred Stock****Debt Securities****Warrants****Units****Rights to Purchase Common Stock, Preferred Stock, Debt Securities or Units**

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, warrants or units that include any of these securities, or rights to purchase shares of common stock, shares of preferred stock, debt securities or units.

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 3 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 June 14, 2023, the last reported sale price of our common stock on The Nasdaq Global Market was \$8.67 per share.

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 June 16, 2023.

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ABOUT THIS PROSPECTUS

This prospectus is a part of an automatic “shelf” registration statement on Form S-3ASR that we filed with the Securities and Exchange Commission, or the SEC, as a “well-known seasoned issuer” as defined in Rule 405 under the Securities Act of 1933, as amended, or the Securities Act. Under this shelf registration process, we may offer and sell from time to time any combination of the securities described in this prospectus in one or more offerings in amounts, at prices and on terms that we determine at the time of the offering.

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.

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. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. 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 pioneering a transformational approach to treating cancer by harnessing the human immune system's ability to recognize and destroy diverse cancer cells using therapies personalized for each patient. We are preparing for potential U.S. regulatory approval and commercialization of the first autologous T-cell therapy to address a solid tumor cancer. Our mission is to be the global leader in innovating, developing and delivering tumor infiltrating lymphocyte, or TIL, therapies for patients with solid tumor cancers. Our autologous TIL therapy platform uses a centralized, scalable and proprietary 22-day manufacturing process to grow polyclonal T-cells unique to each patient and yields a cryopreserved, individualized therapy. We have applied multiple TIL therapy modalities in clinical trials in solid tumors, including TIL monotherapies for patients with later stage disease who have progressed on or after standard of care, as well as TIL combinations with standard of care therapies in patients who are earlier in their disease, to potentially improve outcomes compared to current standard(s) of care.

Our lead product candidate, lifileucel, is being developed in advanced, or metastatic or unresectable, melanoma as well as in other indications. Lifileucel was investigated in two consecutive cohorts in a clinical trial of advanced melanoma patients post-anti-PD-1 therapy, including in a prospectively defined pivotal cohort. These patients had progressed on or after standard of care therapy, which is immune checkpoint inhibitors, or ICIs, and, targeted BRAF/MEK inhibitor therapy where appropriate. Based on the positive results of these cohorts, we completed a rolling Biologics License Application, or BLA, submission to the U.S. Food and Drug Administration, or FDA, for lifileucel in March 2023. Our Phase 3 clinical trial of lifileucel in combination with pembrolizumab, TILVANCE-301, is intended to be registrational in frontline advanced melanoma and serve as a confirmatory clinical trial to support full approval of lifileucel monotherapy in post-anti-PD-1 advanced melanoma.

We are also pursuing registrational strategies for lifileucel in advanced cervical cancer and for our TIL therapy, LN-145, in metastatic non-small cell lung cancer, or NSCLC. To continuously innovate and maintain our global leadership within the field, we are investigating next generation approaches to optimize TIL products, manufacturing processes and treatment regimens, including a first-in-human clinical trial of our lead genetically modified TIL therapy, IOV-4001. We are also exploring a 16-day manufacturing process, tumor tissue procurement via core biopsy, additional genetically modified TIL therapies including multiple immune checkpoint gene edits and cytokine-tethered TIL therapies, and a novel interleukin-2, or IL-2, analog, designated IOV-3001, as potential avenues to improve manufacturing timelines, sample collection and supportive treatments involved in the overall TIL therapy process and treatment regimen.

Corporate Information

Information concerning our company is contained in the documents that we file with the SEC as a reporting company under the Securities Exchange Act of 1934, as amended, or the Exchange Act, which are accessible at www.sec.gov, and on our website at www.iovance.com. The information contained on, or that can be accessed through, our website is not a part of this prospectus. Investors should not rely on any such information in deciding whether to purchase our common stock. We have included our website address in this prospectus solely as an inactive textual reference. Information on our website is not, and should not be considered, part of this prospectus.

Our principal executive offices are located at 825 Industrial Road, Suite 400, San Carlos, California 94070, and our telephone number is (650) 260-7120.

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 “Forward-Looking Statements and Market Data,” as updated by our subsequent filings under 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.

FORWARD-LOOKING STATEMENTS AND MARKET DATA

This prospectus and the documents incorporated herein by reference contain forward-looking statements that are based on management's beliefs and assumptions and on information currently available to management, and we anticipate that the applicable prospectus supplement will contain such forward-looking statements as well. All statements other than statements of historical facts contained in this report are forward-looking statements. In some cases, you can identify forward-looking statements by the following words: "may," "will," "might," "could," "would," "should," "expect," "intend," "plan," "anticipate," "believe," "estimate," "predict," "project," "aim," "potential," "continue," "ongoing," "goal," "forecast," "guidance," "outlook," or the negative of these terms or other similar expressions, although not all forward-looking statements contain these words.

These statements involve risks, uncertainties and other factors that may cause actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. Although we believe that we have a reasonable basis for each forward-looking statement contained in this report, we caution you that these statements are based on a combination of facts and factors currently known by us and our projections of the future, about which we cannot be certain. Forward-looking statements in this prospectus and the documents incorporated herein by reference include, but are not limited to, statements about:

- the success, cost, enrollment, and timing of our clinical trials;
- the success, cost and timing of our product development activities;
- the ability of us or our third-party contract manufacturers to continue to manufacture tumor infiltrating lymphocytes, or TIL, in accordance with our selected process;
- our ability to design, construct and staff our own manufacturing facility on a timely basis and within the estimated expenses;
- the success of competing therapies that are or may become available;
- regulatory developments in the United States of America, or U.S., and foreign countries;
- the timing of and our ability to obtain and maintain U.S. Food and Drug Administration, or the FDA, or other regulatory authority approval of, or other action with respect to, our product candidates;
- our ability to attract and retain key scientific or management personnel;
- the accuracy of our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- our ability to obtain funding for our operations, including funding necessary to complete further development and commercialization of our product candidates;
- the ability and willingness of our third-party research institution collaborators to continue research and development activities relating to our product candidates;
- the potential of our other research and development and strategic collaborations;
- our expectations regarding our ability to obtain and maintain intellectual property protection for our manufacturing methods and product candidates;
- our plans to research, develop and commercialize our product candidates;
- the size and growth potential of the markets for our product candidates, and our ability to serve those markets;
- our ability to contract with third-party suppliers and manufacturers and their ability to perform adequately;
- fluctuations in the trading price of our common stock; and
- our use of cash and other resources.

Actual results may differ from those set forth in this prospectus and the documents incorporated herein by reference due to the risks and uncertainties inherent in our business, including, without limitation: the

FDA may not agree with our interpretation of the results of its clinical trials; later developments with the FDA that may be inconsistent with already completed FDA meetings; the preliminary clinical results, including efficacy and safety results, from ongoing Phase 2 and Phase 3 trials may not be reflected in the final analyses of these trials including new cohorts within these trials; the results obtained in our ongoing clinical trials, such as the studies and trials referred to in this prospectus and the documents incorporated herein by reference, may not be indicative of results obtained in future clinical trials or supportive of product approval; regulatory authorities may potentially delay the timing of FDA or other regulatory authority approval of, or other action with respect to, our product candidates, specifically, our description of FDA interactions are subject to FDA's interpretation, as well as FDA's authority to request new or additional information; we may not be able to obtain or maintain FDA or other regulatory authority approval of its product candidates; our ability to address FDA or other regulatory authority requirements relating to our clinical programs and registrational plans, such requirements including, but not limited to, clinical and safety requirements as well as manufacturing and control requirements; risks related to our accelerated FDA review designations; our ability to obtain and maintain intellectual property rights relating to our product pipeline; and the acceptance by the market of our product candidates and their potential reimbursement by payors, if approved.

We caution you that the risks, uncertainties and other factors referenced above may not contain all the risks, uncertainties and other factors that are important to you. In addition, we cannot guarantee future results, level of activity, performance or achievements. Any forward-looking statement made by us in this prospectus or the documents incorporated herein by reference speaks only as of the date of this prospectus, the dates of the documents incorporated herein by reference or as of the date on which it is made, as applicable. Except as required by law, we undertake no obligation to publicly update any forward-looking statements, whether because of new information, future events or otherwise.

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 Report on Form 10-Q filed with the SEC.

We qualify all of our forward-looking statements by these cautionary statements. In addition, with respect to all of our forward-looking statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

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 and commercialization 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 or licensing other assets or lines of business, repurchasing our common stock and making capital expenditures, including the construction of our manufacturing facility, 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, an indeterminate amount 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;
- units consisting of two or more of the securities described above; or
- rights to purchase shares of our common stock, shares of our preferred stock, warrants, units or our debt securities.

The common stock, the preferred stock, the debt securities, the warrants, the units, and the rights to purchase shares of our common stock, shares of our preferred stock, warrants, debt securities or 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 all 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 300,000,000 shares of \$0.000041666 par value common stock. As of March 31, 2023, we had issued and outstanding 224,358,979 shares of common stock.

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 certificate of incorporation and bylaws prohibit our stockholders from filling board vacancies, calling special stockholder meetings or taking action by written consent;
- our certificate of incorporation and bylaws require advance written notice of stockholder proposals and director nominations;
- our certificate of incorporation requires any action instituted against our officers or directors in connection with their service to us to be brought in the state of Delaware.
- our bylaws provide that our board of directors will establish the authorized number of directors from time to time;
- our bylaws provide for the removal of a director only with cause and by the affirmative vote of the holders of at least two-thirds of the shares then entitled to vote at an election of our directors;
- 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.

In addition, we are subject to the provisions of Section 203 of the General Corporation Law of Delaware. Section 203 prohibits a publicly held Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. A “business combination” includes mergers, asset sales and other transactions resulting in a financial benefit to the interested stockholder. Subject to specified exceptions, an “interested stockholder” is a person who, together with affiliates and associates, owns, or within three years did own, 15% or more of the corporation’s voting stock.

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 1 State Street, 30th 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 March 31, 2023, we had issued and outstanding 194 shares designated as Series A Convertible Preferred Stock (the “Series A Convertible Preferred Stock”) that are convertible into 97,000 shares of common stock, and 2,842,158 shares designated as Series B Convertible Preferred (the “Series B Convertible Preferred Stock”) that are convertible into 2,842,158 shares of common stock. 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 Convertible Preferred Stock and Series B Convertible Preferred Stock 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:

- 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 Convertible Preferred Stock

In October 2013, we created a new class of preferred stock, the Series A Convertible Preferred Stock, designated as “Series A Convertible Preferred Stock.” The shares of Series A Convertible Preferred Stock 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 Convertible Preferred Stock 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 Convertible Preferred Stock the rights, preferences and privileges described in the following paragraphs.

The Series A Convertible Preferred Stock 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 Convertible Preferred Stock may at any given time convert only up to that number of shares of Series A Convertible Preferred Stock 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 Convertible Preferred Stock 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 Convertible Preferred Stock 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 Convertible Preferred Stock).

The Series A Convertible Preferred Stock 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 Convertible Preferred Stock 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 Convertible Preferred Stock 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 Convertible Preferred Stock: (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 Convertible Preferred Stock; (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 Convertible Preferred Stock, or increase the authorized number of shares of Series A Convertible Preferred Stock; 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 Convertible Preferred Stock and Series B Convertible Preferred Stock, 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 Convertible Preferred Stock shall first receive, or simultaneously receive, an equal dividend on each outstanding share of Series A Convertible Preferred Stock.

Series B Convertible Preferred Stock

In June 2016, we created a new class of Preferred Stock designated as “Series B Preferred Stock,” which are now convertible into common stock. The rights of the Series B Convertible Preferred Stock are set forth in the Certificate of Designation of Preferences and Rights of Series B Convertible Preferred Stock (the “Series B Certificate of Designation”). A total of 11,500,000 shares of Series B Convertible Preferred Stock are authorized for issuance under the Series B Certificate of Designation. The shares of Series B Convertible Preferred Stock 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 Convertible Preferred Stock 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 Convertible Preferred Stock or other securities. So long as any Series B Convertible Preferred Stock remains outstanding, we may not redeem, purchase or otherwise acquire any material amount of our Series A Convertible Preferred Stock or other securities.

The shares of Series B Convertible Preferred Stock 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 Convertible Preferred Stock may convert the Series B Convertible Preferred Stock 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 Convertible Preferred Stock are entitled to elect to convert all of the outstanding shares of the Series B Convertible Preferred Stock 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 Convertible Preferred Stock 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 Convertible Preferred Stock, 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 Convertible Preferred Stock; (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 Convertible Preferred Stock, or increase the authorized number of shares of Series B Convertible Preferred Stock; 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 Convertible Preferred Stock and Series B Convertible Preferred Stock, 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 common stock, preferred stock, debt securities or warrants to purchase shares of our common stock, shares of our preferred stock or debt 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.

DESCRIPTION OF RIGHTS

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

General

We may issue rights to purchase common stock, preferred stock, debt securities or units. Rights may be issued independently or together with other securities and may or may not be transferable by the person purchasing or receiving the rights. In connection with any rights offering to our stockholders, we may enter into a standby underwriting, backstop or other arrangement with one or more underwriters or other persons pursuant to which such underwriters or other persons would purchase any offered securities remaining unsubscribed for after such rights offering. In connection with a rights offering to our stockholders, we would distribute certificates evidencing the rights and a prospectus supplement to our stockholders on or about the record date that we set for receiving rights in such rights offering.

The applicable prospectus supplement will describe the following terms of any rights we may issue, including some or all of the following:

- the title and aggregate number of the rights;
- the subscription price or a formula for the determination of the subscription price for the rights and the currency or currencies in which the subscription price may be payable;
- if applicable, the designation and terms of the securities with which the rights are issued and the number of rights issued with each such security or each principal amount of such security;
- the number or a formula for the determination of the number of the rights issued to each stockholder;
- the extent to which the rights are transferable;
- in the case of rights to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one right;
- in the case of rights to purchase common stock or preferred stock, the type of stock and number of shares of stock purchasable upon exercise of one right;
- the date on which the right to exercise the rights will commence, and the date on which the rights will expire (subject to any extension);
- if applicable, the minimum or maximum amount of the rights that may be exercised at any one time;
- the extent to which such rights include an over-subscription privilege with respect to unsubscribed securities;
- if applicable, the procedures for adjusting the subscription price and number of shares of common stock or preferred stock purchasable upon the exercise of each right upon the occurrence of certain events, including stock splits, reverse stock splits, combinations, subdivisions or reclassifications of common stock or preferred stock;
- the effect on the rights of any merger, consolidation, sale or other disposition of our business;
- the terms of any rights to redeem or call the rights;
- information with respect to book-entry procedures, if any;
- the terms of the securities issuable upon exercise of the rights;
- if applicable, the material terms of any standby underwriting, backstop or other purchase arrangement that we may enter into in connection with the rights offering;
- if applicable, a discussion of certain U.S. federal income tax considerations; and
- any other terms of the rights, including terms, procedures and limitations relating to the exchange and exercise of the rights.

Exercise of Rights

Each right will entitle the holder to purchase for cash or other consideration such shares of stock or principal amount of securities at the subscription price as shall in each case be set forth in, or be determinable as set forth in, the prospectus supplement relating to the rights offered thereby. Rights may be exercised as set forth in the applicable prospectus supplement beginning on the date specified therein and continuing until the close of business on the expiration date set forth in the prospectus supplement relating to the rights offered thereby. After the close of business on the expiration date, unexercised rights will become void.

Upon receipt of payment and a subscription certificate properly completed and duly executed at the corporate trust office of the subscription agent or any other office indicated in the prospectus supplement, we will, as soon as practicable, forward the securities purchasable upon such exercise. If less than all of the rights represented by such subscription certificate are exercised, a new subscription certificate will be issued for the remaining rights. If we so indicate in the applicable prospectus supplement, holders of the rights may surrender securities as all or part of the exercise price for rights.

We may determine to offer any unsubscribed offered securities directly to stockholders, persons other than stockholders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby underwriting, backstop or other arrangements, as set forth in the applicable prospectus supplement.

Prior to exercising their rights, holders of rights will not have any of the rights of holders of the securities purchasable upon subscription, including, in the case of rights to purchase common stock or preferred stock, the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise any voting rights or, in the case of rights to purchase debt securities, the right to receive principal, premium, if any, or interest payments, on the debt securities purchasable upon exercise or to enforce covenants in the applicable indenture.

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, 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 will be passed upon for us by DLA Piper LLP (US), Short Hills, New Jersey. Additional legal matters may be passed upon for us or any underwriters, dealers or agents by counsel that we will name in the applicable prospectus supplement.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements as of December 31, 2022 and 2021 and for each of the years then ended, included in [our Annual Report on Form 10-K for the year ended December 31, 2022](#), and the effectiveness of our internal control over financial reporting as of December 31, 2022, as set forth in their reports, which are incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's reports, given on their authority as experts in accounting and auditing.

Our financial statements as of December 31, 2020 and for the year then ended, 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.

The audited historical financial statements of Clinigen SP Limited (Proleukin Business) included on [Exhibit 99.1](#) of Iovance Biotherapeutics, Inc.'s Current Report on Form 8-K/A filed June 2, 2023 have been so incorporated in reliance on the report (which contains an explanatory paragraph relating to material uncertainty about the Proleukin Business's ability to continue as a going concern, as further described in Note 2 to the audited historical financial statements of Clinigen SP Limited) of PricewaterhouseCoopers LLP, independent auditors, given on 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 Exchange Act and, in accordance with that act, file periodic reports and other information with the SEC. The SEC 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.

This prospectus is part of an automatic "shelf" registration statement on Form S-3ASR, or the Form S-3 Registration Statement, that we have filed with the SEC under the Securities Act for the securities offered under this prospectus. 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 incorporate by reference the following documents previously filed with the SEC:

- [our Annual Report on Form 10-K for the year ended December 31, 2022 filed with the SEC on February 28, 2023](#);
- the information included in [our definitive proxy statement on Schedule 14A for our 2023 Annual Meeting of Stockholders, filed with the SEC on April 26, 2023](#), to the extent incorporated by reference in Part III of [our Annual Report on Form 10-K for the year ended December 31, 2022](#);
- [our Quarterly Report on Form 10-Q for the quarter ended March 31, 2023 filed with the SEC on May 10, 2023](#);
- our Current Reports on Form 8-K filed with the SEC on [January 11, 2023](#), [January 23, 2023](#), [January 27, 2023](#), [March 27, 2023](#), [April 24, 2023](#), [May 18, 2023](#), [May 30, 2023](#), [June 6, 2023](#) and our Current Report on Form 8-K/A filed with the SEC on [June 2, 2023](#); 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 us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act subsequent to the filing of the Form S-3 Registration Statement, including all such documents we may file with the SEC after the date of the Form S-3 Registration Statement and prior to the effectiveness of the registration statement, and prior to the filing of a post-effective amendment to the Form S-3 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 prospectus 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 prospectus to the extent that a statement contained herein or in any subsequently filed 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 this prospectus. Any statement contained in this prospectus or in a document incorporated by reference into this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or in any other subsequently filed document that is incorporated by reference herein 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 this prospectus.

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., 825 Industrial Road, Suite 400, San Carlos, California 94070; Telephone: (650) 260-7120.

Up to \$350,000,000



Common Stock

PROSPECTUS SUPPLEMENT

Jefferies

August 22, 2025

Calculation of Filing Fee Tables

S-3

IOVANCE BIOTHERAPEUTICS, INC.

Table 1: Newly Registered and Carry Forward Securities

☐Not Applicable

	Security Type	Security Class Title	Fee Calculation or Carry Forward Rule	Amount Registered	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee	Carry Forward Form Type	Carry Forward File Number	Carry Forward Initial Effective Date	Filing Fee Previously Paid in Connection with Unsold Securities to be Carried Forward
Newly Registered Securities												
Fees to be Paid	1 Equity	Common stock, par value \$0.000041666 per share	457(r)			350,000,000.00	\$ 0.0001531	\$ 53,585.00				
Fees Previously Paid												
Carry Forward Securities												
Carry Forward Securities												
Total Offering Amounts:						\$ 350,000,000.00		\$ 53,585.00				
Total Fees Previously Paid:								\$ 0.00				
Total Fee Offsets:								\$ 0.00				
Net Fee Due:								\$ 53,585.00				

Offering Note

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(1) Consists of shares to be issued pursuant to that certain Amended and Restated Open Market Sales AgreementSM, or the Sales Agreement, dated August 22, 2025, between Iovance Biotherapeutics, Inc. and Jefferies LLC.

(2) Calculated in accordance with Rule 457(o) and Rule 457(r) under the Securities Act of 1933, as amended. Represents payment of registration fees previously deferred in connection with the Registration Statement on Form S-3ASR (Registration No. 333-272718).

Table 2: Fee Offset Claims and Sources

☒Not Applicable

	Registrant or Filer Name	Form or Filing Type	File Number	Initial Filing Date	Filing Date	Fee Offset Claimed	Security Type Associated with Fee Offset Claimed	Security Title Associated with Fee Offset Claimed	Unsold Securities Associated with Fee Offset Claimed	Unsold Aggregate Offering Amount Associated with Fee Offset Claimed	Fee Paid with Fee Offset Source
Rules 457(b) and 0-11(a)(2)											
Fee Offset Claims	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fee Offset Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rule 457(p)											
Fee Offset Claims	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fee Offset Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 3: Combined Prospectuses

☒Not Applicable

	Security Type	Security Class Title	Amount of Securities Previously Registered	Maximum Aggregate Offering Price of Securities Previously Registered	Form Type	File Number	Initial Effective Date
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A