Filed Pursuant to Rule 424(b)(5)
Registration No. 333-200418

PROSPECTUS SUPPLEMENT
(To Prospectus dated December 10, 2014)

8,000,000 Shares

Common Stock

We are offering 8,000,000 shares of our common stock. Prior to this offering, our common stock was listed for quotation on the OTCQB Marketplace under the symbol “LBIO.” On February 24, 2015, the last reported sale price of our common stock on the OTCQB Marketplace was $7.30 per share. Our common stock has been approved for listing on The Nasdaq Global Market under the symbol “LBIO” and we began trading on Nasdaq on February 26, 2015.

Investing in our common stock involves a high degree of risk. Please read “Risk Factors” beginning on page S-5 of this prospectus supplement, on page 4 of the accompanying prospectus, and in the documents incorporated by reference into this prospectus supplement.

Neither the Securities and Exchange Commission 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.

	Per Share	Total
Public Offering Price	$ 8.00	$ 64,000,000
Underwriting Discounts and Commissions[(1)]	$ 0.56	$ 4,480,000
Proceeds to Lion Biotechnologies, Inc. Before Expenses	$ 7.44	$ 59,520,000

(1) See “Underwriting” for a description of the compensation payable to the underwriters.

Delivery of the shares of common stock is expected to be made on or about March 3, 2015. We have granted the underwriters an option for a period of 30 days to purchase up to an additional 1,200,000 shares of our common stock. If the underwriters exercise their option in full, the total underwriting discounts and commissions payable by us will be $5,152,000 and the total proceeds to us, before expenses, will be $68,448,000.

Joint Book-Running Managers

Jefferies **Cowen and Company** **Piper Jaffray**

Co-Manager

Roth Capital Partners

Prospectus Supplement dated February 26, 2015

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ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is the prospectus supplement, including the documents incorporated by reference, which describes the specific terms of this offering. The second part, the accompanying prospectus, including the documents incorporated by reference, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. Before you invest, you should carefully read this prospectus supplement, the accompanying prospectus, all information incorporated by reference herein and therein, as well as the additional information described under “Where You Can Find More Information” and “Incorporation of Certain Information by Reference” in this prospectus supplement. These documents contain information you should consider when making your investment decision. This prospectus supplement may add, update or change information contained in the accompanying prospectus. To the extent that any statement that we make in this prospectus supplement is inconsistent with statements made in the accompanying prospectus or any documents incorporated by reference, 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.

You should rely only on the information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus. Neither we nor any of the underwriters have authorized any other person to provide you with any information that is different. If anyone provides you with different or inconsistent information, you should not rely on it. We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the offering of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement outside the United States. This prospectus supplement does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

Unless otherwise indicated, information contained in this prospectus supplement, the accompanying prospectus or the documents incorporated by reference, concerning our industry and the markets in which we operate, including our general expectations and market position, market opportunity and market share, is based on information from our own management estimates and research, as well as from industry and general publications and research, surveys and studies conducted by third parties. Management estimates are derived from publicly available information, our knowledge of our industry and assumptions based on such information and knowledge, which we believe to be reasonable. In addition, assumptions and estimates of our and our industry’s future performance are necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including those described in “Risk Factors” beginning on page S-5 of this prospectus supplement, on page 4 of the accompanying prospectus and in the documents incorporated by reference into this prospectus supplement. These and other important factors could cause our future performance to differ materially from our assumptions and estimates. See “Special Note Regarding Forward-Looking Statements.”

Unless the context otherwise requires, in this prospectus supplement the “Company,” “Lion,” “we,” “us,” “our” and similar names refer to Lion Biotechnologies, Inc.

This prospectus supplement, the accompanying prospectus and the documents incorporated by reference also include trademarks, tradenames and service marks that are the property of other organizations. Solely for convenience, trademarks and tradenames referred to in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference appear without the ® and ™ symbols, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or that the applicable owner will not assert its rights, to these trademarks and tradenames.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information about us, this offering and the information appearing elsewhere in this prospectus supplement, in the accompanying prospectus and in the documents we incorporate by reference. This summary is not complete and does not contain all the information you should consider before investing in our common stock. Before making an investment decision you should carefully read this entire prospectus supplement and the accompanying prospectus, including "Risk Factors" beginning on page S-5 of this prospectus supplement and page 4 of the accompanying prospectus, the financial statements and related notes, and the other information that we incorporate by reference into this prospectus supplement.

Our Company

We are an emerging biotechnology company focused on developing and commercializing adoptive cell therapy (ACT) using autologous tumor-infiltrating lymphocytes (TIL) for the treatment of metastatic melanoma and other solid cancers. ACT using TIL was developed by Dr. Steven Rosenberg, a recognized pioneer in immuno-oncology and the Chief of Surgery at the National Cancer Institute (NCI). ACT utilizes patients' own immune systems (i.e. T cells harvested from their tumors) to treat their cancer. Our lead product candidate, LN-144, is a TIL therapy being developed for the treatment of refractory, metastatic melanoma. In 2011, we acquired from the National Institutes of Health (NIH) a non-exclusive, worldwide right and license to certain NIH patents and patent applications to develop and manufacture autologous TIL for the treatment of metastatic melanoma, ovarian, breast, and colorectal cancers. Under a Cooperative Research and Development Agreement (CRADA) with Dr. Rosenberg at the NCI, we support the *in vitro* development of improved methods for the generation and selection of TIL, the development of large-scale production of TIL, and clinical trials using these improved methods of generating TIL. In addition to our CRADA, we also conduct research and development on TIL technology at our research facility in Tampa, Florida. Through a clinical trial grant agreement with the H. Lee Moffitt Cancer & Research Institute, we support clinical studies combining TIL therapy with the checkpoint inhibitors, such as ipilimumab and nivolumab in patients with metastatic melanoma.

Recent Developments

On December 22, 2014 we closed an underwritten offering of 6,000,000 shares of our common stock, including shares sold pursuant to the exercise in full of the underwriters' option to purchase additional shares, at a price of $5.75 per share. The net proceeds to us from the offering were approximately $32.2 million.

On January 22, 2015, we expanded our CRADA with the NCI to include research and development on four additional solid tumor indications. As amended, in addition to metastatic melanoma, the CRADA now also includes the development of TIL therapy for the treatment of patients with bladder, lung, triple-negative breast, and HPV-associated cancers.

On January 30, 2015, our investigational new drug (IND) application to the U.S. Food and Drug Administration (FDA) seeking authorization to initiate a company-sponsored, multicenter Phase 2 study of LN-144 for the treatment of refractory metastatic melanoma was allowed.

On February 9, 2015, the NIH granted us an exclusive, worldwide license to treat metastatic melanoma with TIL therapy. In consideration for the exclusive license, we agreed to pay the NIH a non-refundable upfront licensing fee within 60 days after the effective date of the amendment, to pay customary royalties based on a percentage of net sales (which percentage is in the mid-single digits), a percentage of revenues from sublicensing arrangements, and lump sum benchmark payments upon the successful completion of our first Phase 2 clinical study, the successful completion of our first Phase 3 clinical study, the receipt of the first FDA approval or foreign equivalent for a licensed product or process resulting from the licensed technologies, the first commercial sale of a licensed product or process in the United States, and the first commercial sale of a licensed product or process in any foreign country.

On February 10, 2015, we entered into an exclusive Patent License Agreement with the NIH under which we received an exclusive, worldwide license to the NIH's rights in and to two patent-pending technologies related to methods for improving TIL therapy. The licensed technologies relate to a next-generation TIL therapy utilizing enriched tumor-reactive T cells that express various inhibitory receptors. The enriched TIL are more potent and potentially take less time and less resources to manufacture. In consideration for the exclusive rights granted under the exclusive Patent License Agreement, we agreed to pay the NIH a non-refundable upfront licensing fee within 60 days after the effective date of the agreement, and to pay customary royalties based on a percentage of net sales (which percentage is in the mid-single digits), a percentage of revenues from sublicensing arrangements, and lump sum benchmark payments upon the successful completion of our first Phase 2 clinical study, the successful completion of our first Phase 3 clinical study, the receipt of the first FDA approval or foreign equivalent for a licensed product or process resulting from the licensed technologies, the first commercial sale of a licensed product or process in the United States, and the first commercial sale of a licensed product or process in any foreign country.

On February 16, 2015, we appointed Ryan D. Maynard as a new member of our Board of Directors and as the Chair of our Board's Audit Committee. Mr. Maynard currently is the Executive Vice President and Chief Financial Officer of Rigel Pharmaceuticals, Inc., a clinical-stage drug development public company.

We are currently finalizing our financial results for the fiscal year ended December 31, 2014. While complete financial information is not available, based on information currently available, we estimate that as of December 31, 2014 we had approximately $44.9 million of cash and cash equivalents. These preliminary estimates have been prepared by, and are the responsibility of, our management. Our actual cash and cash equivalents as of December 31, 2014 may differ from these estimates due to the completion of our closing procedures with respect to the fiscal year ended December 31, 2014, final adjustments and other developments that may arise between now and the time the financial results are finalized. We expect to complete these closing procedures after this offering is consummated. Accordingly, our audited financial statements as of and for the fiscal year ended December 31, 2014 will not be available until after this offering is completed.

Corporate Information

Our principal executive offices are located at 21900 Burbank Blvd, Third Floor, Woodland Hills, California 91367, and our telephone number is (818) 992-3126. Our website address is *www.lbio.com*. The information contained in, or accessible through, our website should not be considered a part of this prospectus supplement.

THE OFFERING

Common stock offered by us	8,000,000 shares
Common stock to be outstanding after this offering	42,882,138 shares (or 44,082,138 shares if the underwriters exercise in full their option to purchase additional shares)
Option to purchase additional shares	We have granted the underwriters an option to purchase up to 1,200,000 additional shares of our common stock. This option is exercisable, in whole or in part, for a period of 30 days from the date of this prospectus supplement.
Use of proceeds	We intend to use the net proceeds of this offering for the development of our product candidates, including our planned Phase 2 clinical trial for metastatic melanoma, and for other general corporate and working capital purposes. See “Use of Proceeds” on page S-8 of this prospectus supplement.
Risk factors	See “Risk Factors” beginning on page S-5 of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement for a discussion of factors that you should consider before investing in our common stock.
OTCQB symbol	LBIO
Nasdaq listing	Our common stock has been approved for listing on The Nasdaq Global Market under the symbol “LBIO” and we began trading on Nasdaq on February 26, 2015.

The number of shares of our common stock to be outstanding after this offering is based on 34,882,138 shares of our common stock outstanding as of February 23, 2015 and excludes:

- 1,907,877 shares of common stock issuable upon exercise of stock options outstanding as of February 23, 2015, at a weighted average exercise price of $6.62 per share;
- 1,847,000 shares of common stock issuable upon the conversion of shares of Series A Convertible Preferred Stock outstanding as of February 23, 2015;
- 2,163,873 shares of common stock reserved for issuance under our 2011 Equity Incentive Plan and our 2014 Equity Incentive Plan as of February 23, 2015; and
- 10,952,476 shares of common stock issuable upon exercise of warrants outstanding as of February 23, 2015 at a weighted average exercise price of $2.50 per share.

Unless otherwise indicated, this prospectus supplement reflects and assumes the following:

- no exercise of the outstanding options and warrants described above; and
- no exercise by the underwriters of their option to purchase additional shares of our common stock.

RISK FACTORS

Investing in our common stock involves a high degree of risk. Before investing in our common stock, you should consider carefully the risks described below, together with the other information contained in this prospectus supplement, the accompanying prospectus or incorporated by reference herein or therein, including the risks and uncertainties discussed under "Risk Factors" beginning on page 4 of the accompanying prospectus and in the documents incorporated by reference into this prospectus supplement. If any of the risks set forth below, in the accompanying prospectus or in the documents incorporated by reference herein occur, our business, financial condition, results of operations and future growth prospects could be materially and adversely affected. In these circumstances, the market price of our common stock could decline, and you may lose all or part of your investment.

Risks Related to our Securities and this Offering

Purchasers in this offering will experience immediate and substantial dilution in the book value of their investment.

The public offering price of our common stock is substantially higher than the net tangible book value per share of our common stock before giving effect to this offering. Accordingly, if you purchase our common stock in this offering, you will incur immediate and substantial dilution of approximately $5.58 per share, representing the difference between the public offering price and our as adjusted pro forma net tangible book value as of September 30, 2014. Furthermore, if outstanding options or warrants are exercised, you could experience further dilution. For a further description of the dilution that you will experience immediately after this offering, see the section in this prospectus supplement entitled "Dilution."

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, pursuant to a registration statement that was declared effective by the Securities and Exchange Commission, or SEC, in September 2014, we registered the resale of 7,010,403 shares of then outstanding shares of common stock, 1,847,000 shares of our common stock issuable upon the conversion of currently outstanding shares of our Series A Convertible Preferred Stock, and 10,952,476 shares of our common stock issuable upon the exercise of currently outstanding warrants. Notwithstanding the lock-up restrictions described in the section entitled "Underwriting" below, we are permitted to file a registration statement (on either Form S-1 or Form S-3) to register the public resale of up to 9,602,743 shares of our common stock held by certain of our existing stockholders, Ayer Capital Management LP and Bristol Investment Fund Ltd. We expect that this registration statement will be filed and become effective before the expiration of the 60-day lock-up period for these stockholders following this offering, and such registered shares will become immediately eligible to be re-sold publicly after the expiration of the lock-up period. In addition, 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 of 1933, as amended. 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 of this offering for the development of our product candidates and for other general corporate and working capital 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.

An active trading market in our common stock may not develop or be adequately maintained, our common stock may be subject to volatile price and volume fluctuations, and you may not be able to sell your shares quickly or at or above the public offering price.

Prior to this offering, shares of our common stock were traded on the OTCQB Marketplace. Shares on the OTCQB typically trade at lower volumes than on Nasdaq or another national exchange, and the number of persons interested in purchasing our shares of common stock at or near bid prices at any given time was relatively small. In addition, investors may have found it more difficult to obtain accurate quotations of our stock on the OTCQB, and holders of our common stock may not have been able to resell their securities at or near their original offering price or at any price. As a result, the comparison of the price to the public of the shares offered in this offering to our historical stock price, including the last reported sale price on the OTCQB, may not be relevant given the general illiquidity of OTCQB compared to Nasdaq or another national exchange. Although we have been approved for listing on The Nasdaq Global Market, no assurance can be given that an active trading market in our common stock on Nasdaq will develop or be adequately maintained following this offering. Furthermore, even if a more active trading market for our common stock were to be created, the results of the additional liquidity may have an adverse effect on the price of our stock. The overall market for securities in recent years has experienced extreme price and volume fluctuations that have particularly affected the market prices of many smaller companies. These fluctuations have been at times been extreme and are often unrelated or disproportionate to operating performance. Broad market and industry factors, as well as general economic, political and market conditions, may seriously affect the market price of our common stock, regardless of our actual operating performance. We cannot predict the effect that this offering or our listing on Nasdaq may have on the volume or trading price of our common stock. We cannot provide assurance that the market price of our common stock will not fall below the public offering price or that, following this offering, a stockholder will be able to sell shares acquired in this offering quickly due to volume limitations or otherwise, or at a price equal to or greater than the public offering price.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus, and the SEC filings that are incorporated by reference into this prospectus supplement and the accompanying prospectus contain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements other than statements of historical facts, including statements regarding our future results of operations and financial position, including estimated cash and cash equivalents as of December 31, 2014, the effect of our listing on The Nasdaq Global market, business strategy, prospective products, regulatory filings and initiation of clinical trials and other research and development activities, intellectual property rights and license agreements, and other future events, are forward-looking statements. You can generally identify these forward-looking statements by forward-looking words such as "anticipates," "believes," "expects," "intends," "future," "could," "estimates," "plans," "would," "should," "potential," "continues" and similar words or expressions (as well as other words or expressions referencing future events, conditions or circumstances). These forward-looking statements involve risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements, including, but not limited to:

- our current unprofitability and the risk that we may never become profitable;
- our limited operating history;
- our lack of revenue and our need for additional funding, which may not be available, and the risks associated with raising additional capital;
- risks related to our clinical trials, including the uncertainty that results will support our product candidate claims;
- our plans and timing with respect to seeking regulatory approvals and uncertainties regarding the regulatory process;
- risks associated with litigation or regulatory investigations, including expending substantial resources and distracting personnel from their normal responsibilities;
- delays in enrollment of patients in our clinical trials, which could delay or prevent regulatory approvals;
- the dependence of our development program upon third-parties who are outside our control;
- failure to compete successfully against other actual and potential future competitors;
- developments by competitors that may render our products or technologies obsolete or non-competitive;
- failure to comply with obligations of our intellectual property licenses;
- our or our licensors' inability to obtain and maintain patent protection for technology and products;
- the risk that other companies may license the same intellectual properties that we have licensed, including as a result of our inability to obtain exclusive rights from the NIH or NCI, or that other companies may otherwise duplicating our business model and operations;
- risks related to our dependence on third party vendors to design, build, maintain and support our manufacturing and cell processing facilities and our information technology infrastructure and systems;
- risks related to our compliance with patent application requirements;

- risks related to our infringement of third parties' rights;
- risks associated with intellectual property litigation;
- risks associated with healthcare reform;
- our reliance on key executive officers and advisors;
- our inability to hire additional qualified personnel;
- volatility in the price of our common stock; and
- capital appreciation being the only source of gain for our common stock.

All forward-looking statements contained herein are expressly qualified in their entirety by this cautionary statement, the risk factors set forth under the heading "Risk Factors" in this prospectus supplement, and in the accompanying prospectus and the documents incorporated by reference in this prospectus supplement and the accompanying prospectus. These forward-looking statements speak only as of the date of this prospectus supplement. Except to the extent required by applicable laws and regulations, we undertake no obligation to update these forward-looking statements to reflect new information, events or circumstances after the date of this prospectus supplement or to reflect the occurrence of unanticipated events. In light of these risks and uncertainties, the forward-looking events and circumstances described in this prospectus supplement may not occur and actual results could differ materially from those anticipated or implied in the forward-looking statements. Accordingly, you are cautioned not to place undue reliance on these forward-looking statements.

USE OF PROCEEDS

We estimate that the net proceeds from this offering, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, will be approximately $59.3 million, or approximately $68.2 million if the underwriters exercise their option to purchase additional shares in full.

We intend to use the net proceeds from this offering for the development of our product candidates, including our planned Phase 2 clinical trial for metastatic melanoma, and for other general corporate and working capital purposes.

We have not determined the amounts we plan to spend in any of the areas identified above or the timing of these expenditures. As a result, our management will have broad discretion to allocate the net proceeds from this offering, and investors will be relying on the judgment of our management regarding the application of the proceeds from this offering. We may change the use of these proceeds as a result of certain contingencies such as competitive developments, the results of our commercialization efforts, acquisition and investment opportunities and other factors. Pending use of the proceeds as described above, we intend to invest the net proceeds of this offering in short-term, interest-bearing, investment-grade securities or certificates of deposit.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We intend to retain future earnings, if any, to finance the operation and expansion of our business and do not anticipate paying any cash dividends in the foreseeable future. Any future determination related to dividend policy will be made at the discretion of our board of directors after considering our financial condition, results of operations, capital requirements, business prospects and other factors the board of directors deems relevant, and subject to any restrictions contained in financing agreements we may enter into.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be immediately diluted to the extent of the difference between the public offering price per share and the as adjusted net tangible book value per share of our common stock after this offering. As of September 30, 2014, we had outstanding (1) 27,639,688 shares of common stock, and (2) Series A Convertible Preferred Stock that could be converted, without any additional consideration, at the election of the holders at any time into 2,847,000 shares of common stock. Upon the dissolution or winding up of this company, whether voluntary or involuntary, dissolution distributions shall be paid pari passu among the holders of the shares of common stock and the Series A 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. Since these shares of Series A Convertible Preferred Stock can be converted into shares of common stock at any time, and upon liquidation will share liquidation distributions pro rata with the common stock, for the purposes of determining the dilution suffered by investors in this offering, all references to “common stock” in this section include both the 27,639,688 shares of common stock outstanding on September 30, 2014 and the 2,847,000 shares that were issuable on that date upon the conversion of the Series A Convertible Preferred Stock.

As of September 30, 2014, we had a net tangible book value of $16.2 million, or $0.53 per share of common stock (including shares issuable upon the conversion of the Series A Convertible Preferred Stock). Our net tangible book value per share represents total pro forma tangible assets less total liabilities, divided by the number of shares of common stock (including shares issuable upon the conversion of the Series A Convertible Preferred Stock) deemed to be outstanding at September 30, 2014. Since September 30, 2014 through February 23, 2015, we issued a total of 6,242,450 additional shares of our common stock for net cash proceeds of $32.8 million. After giving pro forma effect to these issuances and proceeds therefrom, our pro forma net tangible book value as of September 30, 2014 was approximately $48.9 million, or $1.33 per share of common stock (including shares issuable upon the conversion of the Series A Convertible Preferred Stock).

After giving further effect to the issuance and sale by us of 8,000,000 shares of common stock in this offering and after deducting underwriting discounts and commissions and estimated offering expenses payable by us, our as adjusted pro forma net tangible book value as of September 30, 2014 would have been approximately $108.3 million, or approximately $2.42 per share of common stock (including shares issuable upon the conversion of the Series A Convertible Preferred Stock). This amount represents an immediate increase in the as adjusted pro forma net tangible book value per share of $1.09 to our existing stockholders and an immediate dilution in the as adjusted pro forma net tangible book value per share of approximately $5.58 to new investors purchasing shares of common stock in this offering.

Dilution per share to new investors is determined by subtracting the as adjusted pro forma net tangible book value per share after this offering from the public offering price per share paid by new investors. The following table illustrates this dilution on a per share basis:

Public offering price per share			$	8.00
Net tangible book value per share as of September 30, 2014	$	0.53		
Pro forma increase in historical net tangible book value per share attributable to the share issuances described in the preceding paragraphs	$	0.80		
Pro forma net tangible book value per share as of September 30, 2014	$	1.33		
Increase in pro forma net tangible book value per share attributable to this offering	$	1.09		
As adjusted pro forma net tangible book value per share after this offering			$	2.42
Dilution per share to new investors participating in this offering			$	5.58

The information above assumes that the underwriters do not exercise their option to purchase additional shares. If the underwriters exercise their option in full, our as adjusted pro forma net tangible book value per share after this offering would be $2.55 per share, and the dilution to new investors participating in this offering would be $5.45 per share.

The above discussion and table excludes:

- 1,907,877 shares of common stock issuable upon exercise of stock options outstanding as of February 23, 2015, at a weighted average exercise price of $6.62 per share;
- 2,163,873 shares of common stock reserved for issuance under our 2011 Equity Incentive Plan and our 2014 Equity Incentive Plan as of February 23, 2015; and
- 10,952,476 shares of common stock issuable upon exercise of warrants outstanding as of February 23, 2015 at a weighted average exercise price of $2.50 per share.

To the extent any of these outstanding options and warrants are exercised, there will be further dilution to new investors.

UNDERWRITING

Subject to the terms and conditions set forth in the underwriting agreement dated as of the date of this prospectus supplement, among us, and Jefferies LLC, Cowen and Company, LLC and Piper Jaffray & Co., as the representatives of the underwriters named below and the joint book-running managers of this offering, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the respective number of shares of common stock shown opposite its name below:

UNDERWRITER	NUMBER OF SHARES
Jefferies LLC	4,000,000
Cowen and Company, LLC	1,760,000
Piper Jaffray & Co.	1,760,000
Roth Capital Partners, LLC	480,000
Total	8,000,000

The underwriting agreement provides that the obligations of the several underwriters are subject to certain conditions precedent such as the receipt by the underwriters of officers' certificates and legal opinions and approval of certain legal matters by their counsel. The underwriting agreement provides that the underwriters will purchase all of the shares of common stock if any of them are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the nondefaulting underwriters may be increased or the underwriting agreement may be terminated. We have agreed to indemnify the underwriters and certain of their controlling persons against certain liabilities, including liabilities under the Securities Act, and to contribute to payments that the underwriters may be required to make in respect of those liabilities.

The underwriters have advised us that, following the completion of this offering, they currently intend to make a market in the common stock as permitted by applicable laws and regulations. However, the underwriters are not obligated to do so, and the underwriters may discontinue any market-making activities at any time without notice in their sole discretion. Accordingly, no assurance can be given as to the liquidity of the trading market for the common stock, that you will be able to sell any of the common stock held by you at a particular time or that the prices that you receive when you sell will be favorable.

The underwriters are offering the shares of common stock subject to their acceptance of the shares of common stock from us subject to prior sale. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part. In addition, the underwriters have advised us that they do not intend to confirm sales to any account over which they exercise discretionary authority.

Commission and Expenses

The underwriters have advised us that they propose to offer the shares of common stock to the public at the public offering price set forth on the cover page of this prospectus supplement and to certain dealers, which may include the underwriters, at that price less a concession not in excess of $0.336 per share of common stock. After the offering, the public offering price and concession to dealers may be reduced by the representatives. No such reduction will change the amount of proceeds to be received by us as set forth on the cover page of this prospectus supplement.

The following table shows the public offering price, the underwriting discounts and commissions that we are to pay the underwriters and the proceeds, before expenses, to us in connection with this offering. Such amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

	PER SHARE		TOTAL	
	WITHOUT OPTION TO PURCHASE ADDITIONAL SHARES	WITH OPTION TO PURCHASE ADDITIONAL SHARES	WITHOUT OPTION TO PURCHASE ADDITIONAL SHARES	WITH OPTION TO PURCHASE ADDITIONAL SHARES
Public offering price	$ 8.00	$ 8.00	$ 64,000,000	$ 73,600,000
Underwriting discounts and commissions paid by us	$ 0.56	$ 0.56	$ 4,480,000	$ 5,152,000
Proceeds to us, before expenses	$ 7.44	$ 7.44	$ 59,520,000	$ 68,448,000

We estimate expenses payable by us in connection with this offering, other than the underwriting discounts and commissions referred to above, will be approximately $209,500. We have also agreed to reimburse the underwriters for certain other expenses in an amount not to exceed $30,000 as set forth in the underwriting agreement.

Listing

Our common stock has been approved for listing on The Nasdaq Global Market under the symbol "LBIO," and we began trading on Nasdaq on February 26, 2015. Prior to this offering, our common stock was traded on the OTCQB under the symbol "LBIO."

Option to Purchase Additional Shares

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus supplement, to purchase, from time to time, in whole or in part, up to an aggregate of shares from us, at the public offering price set forth on the cover page of this prospectus supplement, less underwriting discounts and commissions. If the underwriters exercise this option, each underwriter will be obligated, subject to specified conditions, to purchase a number of additional shares proportionate to that underwriter's initial purchase commitment as indicated in the table above.

No Sales of Similar Securities

We and our officers and directors and certain of our existing stockholders, Ayer Capital Management LP and Bristol Investment Fund Ltd. together with their affiliated entities have agreed, subject to specified exceptions, not to directly or indirectly:

- sell, offer, contract or grant any option to sell (including any short sale), pledge, transfer, establish an open "put equivalent position" within the meaning of Rule 16a-l(h) under the Securities Exchange Act of 1934, as amended, or
- otherwise dispose of any shares of common stock, options or warrants to acquire shares of common stock, or securities exchangeable or exercisable for or convertible into shares of common stock currently or hereafter owned either of record or beneficially, or
- publicly announce an intention to do any of the foregoing for a period of 90 days (or 60 days with respect to certain of our existing stockholders, Ayer Capital Management LP and Bristol Investment Fund Ltd.) after the date of this prospectus without the prior written consent of Jefferies LLC.

This restriction terminates after the close of trading of the common stock on and including the 90th day (or 60th day with respect to certain of our existing stockholders, Ayer Capital Management LP and Bristol Investment Fund Ltd.) after the date of this prospectus. However, subject to certain exceptions, in the event that either:

- during the last 17 days of the restricted period, we issue an earnings release or material news or a material event relating to us occurs, or
- prior to the expiration of the restricted period, we announce that we will release earnings results during the 16-day period beginning on the last day of the restricted period,

then in either case the expiration of the restricted period will be extended until the expiration of the 18-day period beginning on the date of the issuance of an earnings release or the occurrence of the material news or event, as applicable, unless Jefferies LLC waives, in writing, such an extension.

Jefferies LLC may, in its sole discretion and at any time or from time to time before the termination of the 90-day period (or 60 day period with respect to certain of our existing stockholders, Ayer Capital Management LP and Bristol Investment Fund Ltd.) release all or any portion of the securities subject to lock-up agreements. There are no existing agreements between the underwriters and any of our shareholders who will execute a lock-up agreement, providing consent to the sale of shares prior to the expiration of the lock-up period.

Notwithstanding the lock-up restrictions described above, we are permitted to file a registration statement (on either Form S-1 or Form S-3) to register the public resale of up to 9,602,743 shares of our common stock held by certain of our existing stockholders, Ayer Capital Management LP and Bristol Investment Fund Ltd. We expect that this registration statement will be filed and become effective before the expiration of the lock-up period. If this registration statement is filed and declared effective by the SEC, 9,602,743 shares of our common stock may become eligible for public re-sale immediately after the expiration of the lock-up period, which may adversely affect prevailing market prices for our common stock. See “Risk Factors,” above.

Stabilization

The underwriters have advised us that they, pursuant to Regulation M under the Securities Exchange Act of 1934, as amended, and certain persons participating in the offering may engage in short sale transactions, stabilizing transactions, syndicate covering transactions or the imposition of penalty bids in connection with this offering. These activities may have the effect of stabilizing or maintaining the market price of the common stock at a level above that which might otherwise prevail in the open market. Establishing short sales positions may involve either “covered” short sales or “naked” short sales.

“Covered” short sales are sales made in an amount not greater than the underwriters’ option to purchase additional shares of our common stock in this offering. The underwriters may close out any covered short position by either exercising their option to purchase additional shares of our common stock or purchasing shares of our common stock in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option to purchase additional shares.

“Naked” short sales are sales in excess of the option to purchase additional shares of our common stock. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the shares of our common stock in the open market after pricing that could adversely affect investors who purchase in this offering.

A stabilizing bid is a bid for the purchase of shares of common stock on behalf of the underwriters for the purpose of fixing or maintaining the price of the common stock. A syndicate covering transaction is the bid for or the purchase of shares of common stock on behalf of the underwriters to reduce a short position incurred by the underwriters in connection with the offering. Similar to other purchase transactions, the underwriters’ purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. A penalty bid is an arrangement permitting the underwriters to reclaim the selling concession otherwise accruing

to a syndicate member in connection with the offering if the common stock originally sold by such syndicate member are purchased in a syndicate covering transaction and therefore have not been effectively placed by such syndicate member.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. The underwriters are not obligated to engage in these activities and, if commenced, any of the activities may be discontinued at any time.

Electronic Distribution

A prospectus in electronic format may be made available by e-mail or on the websites or through online services maintained by one or more of the underwriters or their affiliates. In those cases, prospective investors may view offering terms online and may be allowed to place orders online. The underwriters may agree with us to allocate a specific number of shares of common stock for sale to online brokerage account holders. Any such allocation for online distributions will be made by the underwriters on the same basis as other allocations. Other than the prospectus in electronic format, the information on the underwriters' websites and any information contained in any other website maintained by any of the underwriters is not part of this prospectus supplement or the accompanying prospectus, has not been approved and/or endorsed by us or the underwriters and should not be relied upon by investors.

Other Activities and Relationships

The underwriters and certain of their affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. The underwriters and certain of their affiliates have, from time to time, performed, and may in the future perform, various commercial and investment banking and financial advisory services for us and our affiliates, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the underwriters and certain of their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers, and such investment and securities activities may involve securities and/or instruments issued by us and our affiliates. If the underwriters or their respective affiliates have a lending relationship with us, they routinely hedge their credit exposure to us consistent with their customary risk management policies. The underwriters and their respective affiliates may hedge such exposure by entering into transactions which consist of either the purchase of credit default swaps or the creation of short positions in our securities or the securities of our affiliates, including potentially the common stock offered hereby. Any such short positions could adversely affect future trading prices of the common stock offered hereby. The underwriters and certain of their respective affiliates may also communicate independent investment recommendations, market color or trading ideas, or publish or express independent research views in respect of such securities or instruments, and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Disclaimers About Non-U.S. Jurisdictions

Australia

This prospectus is not a disclosure document for the purposes of Australia's Corporations Act 2001 (Cth) of Australia, or Corporations Act, has not been lodged with the Australian Securities & Investments Commission and is only directed to the categories of exempt persons set out below. Accordingly, if you receive this prospectus in Australia:

You confirm and warrant that you are either**:**

- a "sophisticated investor" under section 708(8)(a) or (b) of the Corporations Act;

- a “sophisticated investor” under section 708(8)(c) or (d) of the Corporations Act and that you have provided an accountant’s certificate to the company which complies with the requirements of section 708(8)(c)(i) or (ii) of the Corporations Act and related regulations before the offer has been made; or
- a “professional investor” within the meaning of section 708(11)(a) or (b) of the Corporations Act.

To the extent that you are unable to confirm or warrant that you are an exempt sophisticated investor or professional investor under the Corporations Act any offer made to you under this prospectus is void and incapable of acceptance.

You warrant and agree that you will not offer any of the shares issued to you pursuant to this prospectus for resale in Australia within 12 months of those shares being issued unless any such resale offer is exempt from the requirement to issue a disclosure document under section 708 of the Corporations Act.

European Economic Area

In relation to each member state of the European Economic Area which has implemented the Prospectus Directive, each referred to herein as a Relevant Member State, with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State, referred to herein as the Relevant Implementation Date, no offer of any securities which are the subject of the offering contemplated by this prospectus has been or will be made to the public in that Relevant Member State other than any offer where a prospectus has been or will be published in relation to such securities that has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the relevant competent authority in that Relevant Member State in accordance with the Prospectus Directive, except that with effect from and including the Relevant Implementation Date, an offer of such securities may be made to the public in that Relevant Member State:

- to any legal entity which is a “qualified investor” as defined in the Prospectus Directive;
- to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the representatives of the underwriters for any such offer; or
- in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of securities shall require the Company or any of the underwriters to publish a prospectus pursuant to Article 3 of the Prospectus Directive or supplement a prospectus pursuant to Article 16 of the Prospectus Directive.

For the purposes of this provision, the expression an “offer to the public” in relation to any securities in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the securities to be offered so as to enable an investor to decide to purchase or subscribe the securities, as the same may be varied in that Relevant Member State by any measure implementing the Prospectus Directive in that Relevant Member State and the expression “Prospectus Directive” means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in the Relevant Member State and the expression “2010 PD Amending Directive” means Directive 2010/73/EU.

Hong Kong

No securities have been offered or sold, and no securities may be offered or sold, in Hong Kong, by means of any document, other than to persons whose ordinary business is to buy or sell shares or debentures, whether as principal or agent; or to “professional investors” as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance; or in other circumstances which do not result in the

document being a “prospectus” as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap. 32) of Hong Kong. No document, invitation or advertisement relating to the securities has been issued or may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted under the securities laws of Hong Kong) other than with respect to securities which are or are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance.

This prospectus has not been registered with the Registrar of Companies in Hong Kong. Accordingly, this prospectus may not be issued, circulated or distributed in Hong Kong, and the securities may not be offered for subscription to members of the public in Hong Kong. Each person acquiring the securities will be required, and is deemed by the acquisition of the securities, to confirm that he is aware of the restriction on offers of the securities described in this prospectus and the relevant offering documents and that he is not acquiring, and has not been offered any securities in circumstances that contravene any such restrictions.

Israel

In the State of Israel this prospectus shall not be regarded as an offer to the public to purchase shares of common stock under the Israeli Securities Law, 5728–1968, which requires a prospectus to be published and authorized by the Israel Securities Authority, if it complies with certain provisions of Section 15 of the Israeli Securities Law, 5728–1968, including, inter alia, if: (i) the offer is made, distributed or directed to not more than 35 investors, subject to certain conditions (the “Addressed Investors”); or (ii) the offer is made, distributed or directed to certain qualified investors defined in the First Addendum of the Israeli Securities Law, 5728–1968, subject to certain conditions (the “Qualified Investors”). The Qualified Investors shall not be taken into account in the count of the Addressed Investors and may be offered to purchase securities in addition to the 35 Addressed Investors. The Company has not and will not take any action that would require it to publish a prospectus in accordance with and subject to the Israeli Securities Law, 5728–1968. The Company and the underwriters have not and will not distribute this prospectus or make, distribute or direct an offer to subscribe for our common stock to any person within the State of Israel, other than to Qualified Investors and up to 35 Addressed Investors.

Qualified Investors may have to submit written evidence that they meet the definitions set out in of the First Addendum to the Israeli Securities Law, 5728–1968. In particular, we may request, as a condition to be offered common stock, that Qualified Investors will each represent, warrant and certify to us and/or to anyone acting on our behalf: (i) that it is an investor falling within one of the categories listed in the First Addendum to the Israeli Securities Law, 5728–1968; (ii) which of the categories listed in the First Addendum to the Israeli Securities Law, 5728–1968 regarding Qualified Investors is applicable to it; (iii) that it will abide by all provisions set forth in the Israeli Securities Law, 5728–1968 and the regulations promulgated thereunder in connection with the offer to be issued common stock; (iv) that the shares of common stock that it will be issued are, subject to exemptions available under the Israeli Securities Law, 5728–1968: (a) for its own account; (b) for investment purposes only; and (c) not issued with a view to resale within the State of Israel, other than in accordance with the provisions of the Israeli Securities Law, 5728–1968; and (v) that it is willing to provide further evidence of its Qualified Investor status. Addressed Investors may have to submit written evidence in respect of their identity and may have to sign and submit a declaration containing, inter alia, the Addressed Investor’s name, address and passport number or Israeli identification number.

Japan

The offering has not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948 of Japan, as amended), or FIEL, and the Initial Purchaser will not offer or sell any securities, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means, unless otherwise provided herein, any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the FIEL and any other applicable laws, regulations and ministerial guidelines of Japan.

Singapore

This prospectus has not been and will not be lodged or registered with the Monetary Authority of Singapore.

Accordingly, this prospectus and any other document or material in connection with the offer or sale, or the invitation for subscription or purchase of the securities may not be issued, circulated or distributed, nor may the securities be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to the public or any member of the public in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore, or the SFA, (ii) to a relevant person as defined under Section 275(2), or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions, specified in Section 275 of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of any other applicable provision of the SFA.

Where the securities are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- a corporation (which is not an accredited investor as defined under Section 4A of the SFA) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary is an accredited investor,

shares, debentures and units of shares and debentures of that corporation or the beneficiaries' rights and interest in that trust shall not be transferable for six months after that corporation or that trust has acquired the Offer Shares under Section 275 of the SFA except:

- to an institutional investor under Section 274 of the SFA or to a relevant person defined in Section 275(2) of the SFA, or to any person pursuant to an offer that is made on terms that such shares, debentures and units of shares and debentures of that corporation or such rights and interest in that trust are acquired at a consideration of not less than $200,000 (or its equivalent in a foreign currency) for each transaction, whether such amount is to be paid for in cash or by exchange of securities or other assets, and further for corporations, in accordance with the conditions, specified in Section 275 of the SFA;
- where no consideration is given for the transfer; or
- where the transfer is by operation of law.

Switzerland

The securities may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange, or SIX, or on any other stock exchange or regulated trading facility in Switzerland. This prospectus has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this prospectus nor any other offering or marketing material relating to the securities or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this prospectus nor any other offering or marketing material relating to the offering, the Company or the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this prospectus will not be filed with, and the offer of securities will not be supervised by, the Swiss Financial Market Supervisory Authority and the offer of securities has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes, or CISA. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of securities.

United Kingdom

This prospectus is only being distributed to, and is only directed at, persons in the United Kingdom that are qualified investors within the meaning of Article 2(1)(e) of the Prospectus Directive that are also (i) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended, referred to herein as the Order, and/or (ii) high net worth entities falling within Article 49(2)(a) to (d) of the Order and other persons to whom it may lawfully be communicated. Each such person is referred to herein as a Relevant Person.

This prospectus and its contents are confidential and should not be distributed, published or reproduced (in whole or in part) or disclosed by recipients to any other persons in the United Kingdom. Any person in the United Kingdom that is not a Relevant Person should not act or rely on this document or any of its contents.

LEGAL MATTERS

Certain legal matters in connection with this offering, including the validity of the common stock to be issued in connection with this offering, will be passed upon for us by TroyGould, PC, and for the underwriters by Latham & Watkins LLP, San Diego, California.

EXPERTS

Our financial statements for the years ended December 31, 2013 and December 31, 2012, which are incorporated into this prospectus by reference to our Annual Report on Form 10-K for the year ended December 31, 2013, have been so incorporated in reliance on the report of Weinberg & Company, P.A., independent registered public accounting firm, upon the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements and other information with the SEC. Information filed with the SEC by us can be inspected and copied at the Public Reference Room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may also obtain copies of this information by mail from the Public Reference Section of the SEC at prescribed rates. Further information on the operation of the SEC's Public Reference Room in Washington, D.C. can be obtained by calling the SEC at 1-800-SEC-0330. The SEC also maintains a web site that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. The address of that website is *http://www.sec.gov*.

Our web site address is *www.lbio.com*. The information on our web site, however, is not, and should not be deemed to be, a part of this prospectus supplement or the accompanying prospectus.

This prospectus supplement and the accompanying prospectus are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Other documents establishing the terms of the offered securities are filed as exhibits to the registration statement. Statements in this prospectus supplement and the accompanying prospectus about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement at the SEC's Public Reference Room in Washington, D.C. or through the SEC's website, as provided above.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC's rules allow us to "incorporate by reference" information into this prospectus supplement and the accompanying prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus supplement and the accompanying prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus supplement and the accompanying prospectus to the extent that a statement contained in this prospectus supplement or the accompanying prospectus modifies or replaces that statement.

We incorporate by reference the following information or documents that we have filed with the SEC:

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2013;
- Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2014, June 30, 2014 and September 30, 2014;
- Our Current Reports on Form 8-K or Form 8-K/A filed with the SEC on February 4, 2014, February 10, 2014, April 8, 2014, May 19, 2014, July 23, 2014, July 25, 2014, July 30, 2014, August 26, 2014, September 9, 2014, November 5, 2014, November 12, 2014, December 9, 2014, December 15, 2014, December 16, 2014, January 27, 2015, February 12, 2015, February 18, 2015, and February 25, 2015;
- The description of our securities as described in our Registration Statement on Form 8-A filed with the SEC on March 7, 2008, and any amendment or report filed for the purpose of updating such description; and
- Documents we subsequently file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, between the date of this prospectus supplement and the termination of the offering of the securities described in this prospectus supplement.

We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed above or filed in the future, that are not deemed "filed" with the SEC, including any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K. The reports and documents specifically listed above or filed in the future (excluding any information furnished to, rather than filed with, the SEC) are deemed to be part of this prospectus supplement and accompanying prospectus from the date of the filing of such reports and documents.

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: Lion Biotechnologies, Inc., 21900 Burbank Boulevard, Third Floor, Woodland Hills, California 91367; (818) 992-3126. Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus supplement and the accompanying prospectus supplement.

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PROSPECTUS

$100,000,000

LION BIOTECHNOLOGIES, INC.

Common Stock
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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 and/or warrants, either separately, together with other securities covered by this prospectus or as units consisting of two or more of the securities covered by this prospectus. The debt securities, preferred stock and warrants may be convertible into or exercisable or exchangeable for common stock, preferred stock or debt securities. The aggregate offering price of all securities sold under this prospectus will not exceed $100,000,000.

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

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

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

Our common stock is traded on the OTCQB under the symbol “LBIO.” On November 19, 2014, the last reported sale price of our common stock on the OTCQB was $5.20 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 December 10, 2014.

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ABOUT THIS PROSPECTUS

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

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

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

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

Throughout this prospectus, the terms "Lion," "we," "us," "our," and "our company" refer to Lion Biotechnologies, Inc., a Nevada corporation.

LION BIOTECHNOLOGIES, INC.

Overview

Lion Biotechnologies, Inc. is an emerging biotechnology company focused on developing and commercializing adoptive cell therapy (ACT) using autologous tumor infiltrating lymphocytes (TILs) for the treatment of metastatic melanoma and other solid cancers. ACT utilizes the patient's own immune system (T-cells harvested from a patient) to treat cancer in that patient. TILs are types of anti-tumor T-cell that are naturally present in a patient's tumors and are collected from individual patients' tumor samples. The TILs are then activated and expanded *ex vivo* and then infused back into the patient to fight their tumor cells.

ACT using TILs was developed by Dr. Steven Rosenberg, Chief of Surgery at the National Cancer Institute (NCI) and a recognized pioneer in immuno-oncology. We have (i) acquired a worldwide, non-exclusive license for various adoptive cell therapy technologies from the National Institutes of Health (NIH), an agency of the United States Public Health Service within the Department of Health and Human Services, and (ii) entered into a Cooperative Research and Development Agreement (CRADA) with the NCI, pursuant to which we intend to support the *in vitro* development of improved methods for the generation and selection of TILs, develop approaches for large-scale production of TILs, and conduct clinical trials using these improved methods of generating TILs for the treatment of metastatic melanoma. While we are currently focusing on melanoma, our license with the NIH covers three other indications (breast cancer, ovarian cancer, and colorectal cancer). Currently, we are also in discussions with the NIH to license additional exclusive rights to a next generation T-cell technology that may have higher potency, persist over a longer period of time, require fewer cells, and have a lower manufacturing cost, as well as exclusive or non-exclusive rights to other indications. However, no assurance can be given that we will be able to license these additional rights.

TIL therapy is presently being studied under physician-sponsored INDs for the treatment of metastatic melanoma at several institutions, including the NCI, MD Anderson Cancer Center, and the H. Lee Moffitt Cancer Center & Research Institute. Although we are sponsoring development of TILs at NCI and work closely with some of the physicians involved in developing these technologies at other institutions, to date we have not been direct sponsors of the clinical trials at these other institutions. Clinical trials in small patient populations at different institutions show that durable response rates can be observed in approximately half of metastatic melanoma patients treated with TIL therapy. Complete responses can be seen in about 10% of metastatic melanoma patients treated with TILs.

Unfortunately, manufacturing TILs is currently labor intensive, costly, and time-consuming, which has limited its widespread application. We have entered into a Manufacturing Services Agreement with Lonza Walkersville, Inc. (Lonza) pursuant to which Lonza has agreed to manufacture, package, ship and handle quality assurance and quality control of our TIL therapy. Lonza has commenced developing a commercial-scale manufacturing process for the TIL therapy. Our goal is to develop and establish a manufacturing process for the large-scale production of TILs that is in accord with current Good Manufacturing Practices (cGMP). By providing centralized manufacturing, we believe TIL therapy can be more widely available to a larger number of cancer patients.

Since 2011 we have worked with NCI to develop new systems for large scale manufacturing of TILs and to transfer the manufacturing process to Lonza for further development. In addition, the NCI, under our CRADA, is currently continuing to test TILs in metastatic melanoma patients either alone, or in combination with other therapeutic agents. This work has been supported by research payments of $3.0 million that we have to date made to the NCI under the CRADA. We intend to supplement the research being conducted under the CRADA with research to be conducted under the auspices of Dr. Laszlo Radvanyi at our new Tampa, Florida, research facility that we are currently establishing in Tampa, Florida, near the H. Lee Moffitt Cancer Center & Research Institute on the Tampa campus of the University of South Florida, and through a clinical trial grant agreement we entered into with Moffitt Cancer Center in July 2014 to expand an ongoing Phase 1 study of TILs combined with the checkpoint inhibitor ipilimumab (Yervoy) in patients with metastatic melanoma. Our research and development facility, when fully operational later this year, is expected to employ approximately ten employees or contractors.

Our goal is to initiate a company-sponsored Phase 2 clinical trial early in 2015 to evaluate the feasibility, safety and efficacy of TILs manufactured for us by Lonza at its facilities in the treatment of metastatic melanoma patients refractory to other treatments. We expect the Phase 2 trial will take approximately 12 – 18 months to complete, and that it will cost at least $5 – 6 million over the next two years to develop the more robust manufacturing process that is needed before we can initiate a pivotal clinical trial in 2016. Initiation of this Phase 3 clinical trial is dependent on Federal Drug Administration's (FDA) agreement with our clinical trial plans as well as validation of our manufacturing and testing processes. Since we completed a $23.3 million private placement in November 2013 (the "Private Placement"), we believe that we have sufficient funds to reach the Phase 3 trial stage. The cost of a Phase 3 registration trial, however, is estimated to be at least $30 – 35 million, and will require us to treat a large number of patients and will take at least three years to complete. Although we believe that we have sufficient capital to fund our anticipated research and development and working capital needs for at least the next 12 months, we do not have sufficient funds for the Phase 3 registration trial and, therefore, will have to raise additional capital to complete the trial.

We are a development stage company that to date has out-sourced all of its research and development activities. However, with the opening of the Tampa facility we will be conducting a significant portion of our research activities in-house, in the future. As of the date of this prospectus, we only had 14 employees. To date, we have not generated any revenues.

Company History

We filed our original Articles of Incorporation with the Secretary of State of Nevada on September 17, 2007. Until March 2010, we were an inactive company known as Freight Management Corp. On March 15, 2010, we changed our name to Genesis Biopharma, Inc. and in 2011 we commenced our current business. On September 26, 2013, we amended and restated our Articles of Incorporation to, among other things, change our name to Lion Biotechnologies, Inc., effect a 1-for-100 reverse stock split (pro-rata reduction of outstanding shares) of our common stock, increase (after the reverse stock split) the number of our authorized number of shares of common stock to 150,000,000 shares, and authorize the issuance of 50,000,000 shares of "blank check" preferred stock, $0.001 par value per share.

Our principal executive offices are located at 21900 Burbank Boulevard, 3rd Floor, Woodland Hills, California 91367, and our telephone number at that address is (818) 992-3126. Our website is located at *www.lionbio.com*. Information on our website is not, and should not be considered, part of this prospectus.

RISK FACTORS

Investing in our common stock involves a high degree of risk. Before making an investment decision, you should carefully consider the risks relating to ownership of our common stock described below, together with the information under "Risk Factors" in our subsequent Annual Report on Form 10-K and subsequent Quarterly Reports on Form 10-Q and the other information incorporated by reference in this prospectus. Some of these factors relate principally to our business and the industry in which we operate. Other factors relate principally to your investment in our common stock. If any of these risks were to occur, our business, financial condition, results of operations, cash flows or prospects could be materially and adversely affected. In such case, you may lose all or part of your investment.

The risks and uncertainties described below and in our subsequent Annual Report on Form 10-K and Quarterly Reports on Form 10-Q are not the only ones facing us. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also materially and adversely affect our business and operations.

Risks Related To Our Business

We have a history of operating losses; we expect to continue to incur losses and we may never be profitable.

As of September 30, 2014, we had an accumulated deficit of $71,695,179. In addition, during the fiscal year ended December 31, 2013 and the nine month period ended September 30, 2014, we incurred a net loss of $25,381,000 and $7,168,000, respectively. Although most of the losses in 2013 were the result of charges attributed to our acquisition in July 2013 of Lion Biotechnologies, Inc., a Delaware company, to a restructuring of our indebtedness in May 2013, and to stock based compensation expenses for securities we issued to our executives and consultants, we expect to continue to generate losses until, if ever, we release our first product. We do not expect to generate any product sales or royalty revenues for at least four years. We expect to incur significant additional operating losses in the future as we expand research and development and clinical trial efforts.

Our ability to achieve long-term profitability is dependent upon obtaining regulatory approvals for our products and successfully commercializing our products alone or with third parties. However, our operations may not be profitable even if any of our products under development are successfully developed and produced and thereafter commercialized.

Even if we succeed in commercializing one or more of our product candidates, we expect to continue to incur substantial research and development and other expenditures to develop and market additional product candidates. The size of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenue. Our prior losses and expected future losses have had and will continue to have an adverse effect on our stockholders' equity and working capital.

We have limited experience in operating our current business, which makes it difficult to evaluate our business plan and our prospects.

Until March 2010, we were an inactive company known as Freight Management Corp. In March 2010, we acquired certain intellectual property related to a proprietary, therapeutic use of anti-CD55+ antibodies for the treatment of cancer and commenced developing biotechnology drugs based on the anti-CD55+ antibodies. However, test results from the studies performed for us as part of the anti-CD55+ antibody program failed to meet the pre-clinical development endpoints, and in 2011 we decided to terminate the development of products based on the anti-CD+55 antibodies and to enter into our current business. Our business is substantially dependent upon the NIH License Agreement, the CRADA and the manufacturing services agreement with Lonza Walkersville, Inc., all of which we entered into since mid-2011. In addition, since mid-2013 we have made substantial changes to our management team and to the membership of our Board of Directors. As a result, we have only a limited operating history in our current line of business on which a decision to invest in our company can be based. The future of our company currently is dependent upon our ability to implement our new business plan, as that business plan may be modified from time to time by our new management. While we believe that we have a sound business plan and research and development

strategy, we have only a limited operating history against which we can test our plans and assumptions, and investors therefore cannot evaluate the likelihood of our success based on our prior operating history.

We face the problems, expenses, difficulties, complications and delays normally associated with a small, new biotechnology company, many of which are beyond our control. Accordingly, our prospects should be considered in light of the risks, expenses and difficulties frequently encountered in the establishment of a new business developing new technologies in an industry that characterized by a number of market entrants and intense competition. As of the date of this prospectus, we have only 14 full-time employees and limited resources. As a result, we may not possess the ability to successfully overcome many of the risks and uncertainties frequently encountered by early stage companies involved in the new and rapidly evolving field of biotechnology in general and in cancer treatment in particular. Since we are still developing our technologies, if our research and development efforts are successful, we may also face the risks associated with the shift from development to commercialization of new products based on innovative technologies. There can be no assurance that we will be successful in developing our new business.

We currently have no revenues, a limited amount of cash available, and will need to raise substantial additional capital to operate our business.

We do not expect to generate any revenues until, and if, we receive approval from the FDA and other regulatory authorities for our product candidates allowing us to sell our products. As a result of the funding we received in November 2013 from the Private Placement, we now have sufficient cash to fund our anticipated research and development and working capital needs for at least the next 12 months. However, it is expensive to develop cell therapies for the treatment of cancer, and to conduct clinical trials for such therapies. Based on our internal projections, we estimate that we will spend approximately $8-$10 million over the next 12 months to conduct or support additional clinical trials to support development of our products, support research and development, and for developing our manufacturing process. In addition, general and administrative expenses have significantly increased in 2014 and will continue to increase as we expand the scope of our operations. The funds we have in hand are only sufficient to partially fund our proposed research and development efforts and to fund only a portion of our anticipated clinical trial expenses. Therefore, we will need to raise significant amounts of additional capital to fund general and administrative expenses, to continue the research and development of our adoptive cell therapies, and to commercialize our adoptive cell therapies. Our ability to obtain such additional debt or equity funding will depend on a number of factors, including but not limited to the following:

- our degree of success in developing our adoptive cell therapy products;
- the rate of progress and cost of our research and development and clinical trial activities;
- the costs of preparing, filing, prosecuting, maintaining and enforcing patent claims and other intellectual property rights;
- emergence of competing technologies and other adverse market developments; and
- the cost of developing and establishing the necessary manufacturing processes and facilities.

We have not identified the sources for the additional financing that we will require, and we do not have commitments from any third parties to provide this financing. Certain investors may be unwilling to invest in our securities since we are traded on the OTC QB market and not on a national securities exchange, particularly if there is only limited trading in our common stock on the OTC QB market at the time we seek financing. We intend to seek a national securities exchange listing for our common stock, but no assurance can be given of such listing or that the trading liquidity will improve even after such a listing. The volume and frequency of such trading has been limited and erratic to date. There is no assurance that sufficient funding through a financing will be available to us at acceptable terms or at all. These factors, and our ability to meet our obligations from current operations, and the need to raise additional capital to accomplish our objectives, create a substantial doubt about our ability to raise the additional funds we anticipate that we will need.

We may not be able to obtain additional financing on favorable terms or at all. If we are unable to raise additional funds when we need them, we may be required to delay, reduce or eliminate some or all of our development programs and some or all of our clinical trials. If we do not raise additional funds, we may be required to cease all operations and close our company, in which case our stockholders will suffer a total loss on their investment. If we do raise additional funds by issuing equity securities, further dilution to stockholders will result, and new investors could have rights superior to holders of shares issued in this offering. Any additional funding that we obtain in a financing is likely to reduce the percentage ownership of the company held by our existing security holders. The amount of this dilution may be substantially increased if the trading price of our common stock has declined at the time of any financing from its current levels.

The deviations in our proposed new products from existing products may require us to perform additional testing, which will increase the cost, and extend the time for obtaining approval.

Our TIL based therapy is based on the ACT technology that we licensed from the NIH and that is presently being studied under physician-sponsored INDs for the treatment of Stage IV metastatic melanoma in the U.S. at the National Cancer Institute, MD Anderson Cancer Center, and the H. Lee Moffitt Cancer & Research Institute. The current method of treatment is very labor intensive and expensive, which has limited its widespread application. We are planning to develop new processes that we anticipate will enable more efficient manufacturing of our products. We may have difficulty demonstrating that the new products produced from our new processes are identical to the existing products. The FDA may require additional clinical testing before permitting a larger clinical trial with the new processes, and also the new product may not be as efficacious in the new clinical trials. Cellular products are not considered as well characterized products because there are hundreds of markers present on these cells, and even small changes in manufacturing processes could alter the cell types. It is unclear at this time which of those markers are critical for success of these cells to combat cancer, so our ability to predict the outcomes with newer manufacturing processes is limited. The changes that we may make to the existing manufacturing process may require additional testing, which may increase costs and timelines associated with these developments.

In addition to developing a TIL based therapy on existing ACT technology, we are currently evaluating the desirability of conducting clinical trials of our products in combination with other existing drugs for the treatment of metastatic melanoma. These combination therapies will require additional testing and clinical trials will require additional FDA regulatory approval and will increase our future cost of expenses.

The future impact of the SEC's investigation "In the Matter of Galena Biopharma, Inc" (now known as "In the Matter of Certain Stock Promotions"), if any, is unknown, but any future involvement in the investigation could have a material adverse effect on us.

On April 23, 2014, we received a subpoena from the SEC that stated that the staff of the SEC is conducting an investigation in a matter titled *In the Matter of Galena Biopharma, Inc. File No. HO 12356 (now known as "In the Matter of Certain Stock Promotions")*, and that the subpoena was issued to us as part of the foregoing investigation. The SEC's subpoena and accompanying letter did not indicate whether we are, or are not, under investigation. We are cooperating with the SEC and have completed the production of documents in response to the subpoena. To date, the SEC has not requested any further action from us. Nevertheless, the SEC may in the future require us to produce additional documents or other materials.

In general, the subpoena required that we give the SEC certain documents regarding, and communications between anyone at this company and certain listed persons and entities (which include investor-relations firms and persons associated with the investor-relations firms), and articles regarding us posted on certain equity research or other financial websites. Although the SEC has not publicly disclosed the goals and targets of its investigation, we believe that the SEC is investigating improper conduct by investor relations firms relative to the payment of bloggers and other authors for promotional articles written about public companies. A number of articles have been written about us that may be available on the internet and elsewhere. Investors considering an investment in the our securities should review this prospectus, the applicable supplement, and the documents that we have filed with the SEC rather than relying on internet blogs or other similar articles and publications.

We are unaware of the scope or timing of the SEC's investigation. As a result, we do not know how the SEC investigation is proceeding, when the investigation will be concluded, or if we will become involved to a greater extent than in response to the April 2014 subpoena. If we receive additional subpoenas or other requests for documents from the SEC, complying with any such future requests could distract the time and attention of our officers and directors or divert our resources away from ongoing research and development programs. Furthermore, it is possible that we currently are, or may hereafter become a target of the SEC's investigation. Any such investigation could result in significant legal expenses, the diversion of management's attention from our business, damage to our business and reputation, and could subject us to a wide range of remedies, including an SEC enforcement action.

We are highly dependent on our key personnel, and if we are not successful in attracting and retaining highly qualified personnel, we may not be able to successfully implement our business strategy.

Our ability to compete in the highly competitive biotechnology and pharmaceutical industries depends upon our ability to attract and retain highly qualified managerial, scientific and medical personnel. Currently, key members of our management and scientific team include Manish Singh, PhD, our Chief Executive Officer, Elma Hawkins PhD, our President and Chief Operating Officer, and Laszlo Radvanyi PhD, our Chief Scientific Officer. Dr. Singh has informed us that he will be resigning effective as of December 31, 2014. We have not yet identified the replacement for Dr. Singh. Although we expect to appoint another Chief Executive Officer before the end of the year, the impact of the loss of Dr. Singh's services is unknown. The loss of the services of any of our other executive officers, other key executives and employees, and other scientific advisors, and our inability to find suitable replacements could result in delays in product development and harm our business.

To induce valuable employees to remain at our company, in addition to salary and cash incentives, we grant our employees restricted stock and/or stock options that vest over time. The value to employees of restricted stock and stock options that vest over time may be significantly affected by movements in our stock price that are beyond our control, and may at any time be insufficient to counteract more lucrative offers from other companies. Despite our efforts to retain valuable employees, members of our management, scientific and development teams may terminate their employment with us on short notice. Although we have employment agreements with our key employees, any of our employees could leave our employment at any time, with or without notice. We do not maintain "key man" insurance policies on the lives of these individuals or the lives of any of our other employees. Our success also depends on our ability to continue to attract, retain and motivate highly skilled junior, mid-level and senior managers as well as junior, mid-level and senior scientific and medical personnel. However, competition for qualified employees among companies in the biotechnology and biopharmaceutical industry is intense, and no assurance can be given that we will be able attract, hire, retain and motivate the highly skilled employees that we need. If we are unable to hire new skilled personnel, including management, our ability to properly develop our products and to implement our business plan will be adversely affected, which will result in a reduction in the value of our shares of common stock.

We are subject to extensive regulation, which can be costly, time consuming and can subject us to unanticipated delays; even if we obtain regulatory approval for some of our products, those products may still face regulatory difficulties.

All of our potential products, cell processing and manufacturing activities, are subject to comprehensive regulation by the FDA in the United States and by comparable authorities in other countries. The process of obtaining FDA and other required regulatory approvals, including foreign approvals, is expensive and often takes many years and can vary substantially based upon the type, complexity and novelty of the products involved. In addition, regulatory agencies may lack experience with our technologies and products, which may lengthen the regulatory review process, increase our development costs and delay or prevent their commercialization.

No adoptive cell therapy using tumor infiltrating lymphocytes has been approved for marketing in the U.S. by the U.S. Food and Drug Administration (FDA). Consequently, there is no precedent for the successful commercialization of products based on our technologies. In addition, we have had only limited experience in filing and pursuing applications necessary to gain regulatory approvals, which may impede our ability to obtain timely FDA approvals, if at all. We have not yet sought FDA approval for any adoptive cell therapy product. We

will not be able to commercialize any of our potential products until we obtain FDA approval, and so any delay in obtaining, or inability to obtain, FDA approval would harm our business.

If we violate regulatory requirements at any stage, whether before or after marketing approval is obtained, we may be fined, forced to remove a product from the market and experience other adverse consequences including delay, which could materially harm our financial results. Additionally, we may not be able to obtain the labeling claims necessary or desirable for the promotion of our products. We may also be required to undertake post-marketing trials. In addition, if we or others identify side effects after any of our adoptive cell therapies are on the market, or if manufacturing problems occur, regulatory approval may be withdrawn and reformulation of our therapies, additional clinical trials, changes in labeling of our therapies, and additional marketing applications may be required.

It may take longer and cost more to complete our clinical trials than we project, or we may not be able to complete them at all.

For budgeting and planning purposes, we have projected the date for the commencement, continuation and completion of our various clinical trials. However, a number of factors, including scheduling conflicts with participating clinicians and clinical institutions, and difficulties in identifying and enrolling patients who meet trial eligibility criteria, may cause significant delays. We may not commence or complete clinical trials involving any of our products as projected or may not conduct them successfully.

Our goal is to file an IND application with the FDA by the end of 2014 for a Phase 2 company-sponsored clinical trial for the treatment of metastatic melanoma patients who are refractory to other treatments and to initiate that trial early in 2015 and, subject to the successful completion of the Phase 2 trial and FDA approval, to initiate a Phase 3 metastatic melanoma clinical trial in late 2016. We anticipate that we will have to treat a large number of patients at more than 10 medical institutions. However, because we have not yet obtained the FDA's approval for our proposed Phase 3 trial, the scope of that Phase 3 trial is still uncertain (including uncertainties as to whether it will be a pivotal trial, how many patients we will have to treat, and what kind of patients those will be). Depending on the FDA's requirements, the Phase 3 trial could differ substantially from our plans and could cost more, and take longer than we anticipate.

We expect to rely on medical institutions, academic institutions or clinical research organizations to conduct, supervise or monitor some or all aspects of clinical trials involving our products. We will have less control over the timing and other aspects of these clinical trials than if we conducted them entirely on our own. If we fail to commence or complete, or experience delays in, any of our planned clinical trials, our stock price and our ability to conduct our business as currently planned could be harmed.

We currently anticipate that we will have to rely on our manufacturing partner, Lonza Walkersville, Inc., to manufacture our adoptive cell therapy products for Phase 2 and Phase 3 clinical trials. If Lonza fails to commence or complete, or experiences delays in, manufacturing our adoptive cell therapy products, our planned clinical trials will be delayed, which will adversely affect our ability to conduct our business as currently planned.

We may not be able to license new TIL technology from the NIH as we plan to do, and any products that we may develop based on that new technology may not be as effective as current products and may cost more to develop than we anticipated.

We have commenced discussions with the NIH to obtain an exclusive license from the NIH for a next generation TILs technology that may significantly reduce our costs of production and could potentially increase the potency of the product. No assurance can be given that we will be successful in licensing these technologies on attractive terms, or at all. In addition, there is no guarantee that the next generation technology will have similar clinical effects in clinical trials in terms of safety and efficacy of the product. Our development of a product based on the new TIL's technology may require significant clinical development prior to any registration trials. These additional trials may be extensive and may increase timelines associated with our development of such a product.

If testing of a particular product does not yield successful results, then we will be unable to commercialize that product.

Our research and development programs are at an early stage. We must demonstrate our products' safety and efficacy in humans through extensive clinical testing. We may experience numerous unforeseen events during, or as a result of, the testing process that could delay or prevent commercialization of our products, including but not limited to the following:

- safety and efficacy results in various human clinical trials reported in scientific and medical literature may not be indicative of results we obtain in our clinical trials;
- after reviewing test results, we or our collaborators may abandon projects that we might previously have believed to be promising;
- we, our collaborators or regulators may suspend or terminate clinical trials if the participating subjects or patients are being exposed to unacceptable health risks; and
- the effects our potential products have may not be the desired effects or may include undesirable side effects or other characteristics that preclude regulatory approval or limit their commercial use if approved.

Clinical testing is very expensive, can take many years, and the outcome is uncertain. Many months will elapse before we learn the results from any clinical trial using our adoptive cell therapy, and the data collected from our clinical trials may not be sufficient to support approval by the FDA of our TIL-based adoptive cell therapy using tumor infiltrating lymphocytes product candidates for the treatment of Stage IV metastatic melanoma or any other form of cancer. The clinical trials for our products under development may not be completed on schedule and the FDA may not ultimately approve any of our product candidates for commercial sale. If we fail to adequately demonstrate the safety and efficacy of any product candidate under development, we may not receive regulatory approval for those products, which would prevent us from generating revenues or achieving profitability.

Our research and development plans are to a large extent dependent upon the CRADA.

We expect to conduct a large portion of our research and development under the CRADA we entered into with the NCI. We are obligated to make quarterly payments of $250,000 under the CRADA. However, we have limited control over the nature or timing of the NCI's clinical trials and limited visibility into their day-to-day activities, including with respect to how they are administering TIL therapy. The work under the CRADA is being conducted under Dr. Rosenberg. However, Dr. Rosenberg is engaged in other research activities that may receive higher priority than, or even compete with the research on our programs, which could delay the timing of our ability to conduct future planned clinical trials.

Although the CRADA has a five-year term, either party to the CRADA has the right to terminate the CRADA upon 60 days' notice to the other party. As a result, no assurance can be given that the NCI will not terminate the CRADA in the future and that the CRADA will, therefore, remain in effect until we complete our desired research thereunder.

Under the CRADA, we have an option to negotiate commercialization licenses from the NIH to intellectual property developed in the course of the CRADA research plan. There can be no assurance that we would be able to successfully complete such negotiations and ultimately acquire the rights to such intellectual property.

We have no experience as a company conducting clinical trials.

All of the preclinical and clinical trials relating to TIL therapy have to date been conducted by the NCI and other institutions. We plan to start a Phase 2 study for the treatment of metastatic melanoma patients refractory to other treatments early in 2015, and we plan to conduct a Phase 3 trial designed to treat metastatic melanoma with TILs therapy starting in late 2016. Although we have recruited a team that has significant experience with clinical trials, we have no experience as a company in conducting clinical trials. In

part because of this lack of experience, we cannot be certain that the design of the planned clinical trials will be optimal from an efficacy or outcome perspective, or that these trials will begin or be completed on time, if at all. Large-scale trials will be require significant additional financial and management resources, and reliance on third-party clinical investigators, contract research organizations, or CROs, or consultants. Relying on third-party clinical investigators or CROs may cause us to encounter delays that are outside of our control.

We are required to pay substantial royalties under our license agreement with the NIH, and we must meet certain milestones to maintain our license rights.

Under our license agreement with the NIH for our adoptive cell therapy technologies, we are currently required to pay substantial royalties to that institution based on our revenues from sales of our products utilizing this technology, and these royalty payments could adversely affect the overall profitability for us of any products that we may seek to commercialize. In order to maintain our license rights under the NIH License agreement, we will need to meet certain specified milestones, subject to certain cure provisions, in the development of our product candidates. There is no assurance that we will be successful in meeting all of the milestones in the future on a timely basis or at all.

Because our current product candidates represent and our other future potential product candidates will represent novel approaches to the treatment of disease, there are many uncertainties regarding the development, the market acceptance, third-party reimbursement coverage and the commercial potential of our product candidates.

TIL therapy is presently being studied under physician-sponsored INDs for the treatment of metastatic melanoma at several institutions, including the NCI, MD Anderson Cancer Center, and the H. Lee Moffitt Cancer & Research Institute on the Tampa campus of the University of South Florida, where our new research and development facilities are located. However, TIL therapy is not commercially available, and there is no assurance that the approaches offered by our current product candidates or any future product candidates can be commercialized or gain broad acceptance among doctors or patients or that governmental agencies or third-party medical insurers will be willing to provide reimbursement coverage for proposed product candidates. Moreover, we do not have verifiable internal marketing data regarding the potential size of the commercial market for our product candidates, nor have we obtained independent marketing surveys to verify the potential size of the commercial markets for our current product candidates or any future product candidates. Since our current product candidates and any future product candidates will represent new approaches to treating various conditions, it may be difficult, in any event, to accurately estimate the potential revenues from these product candidates. Accordingly, we may spend large amounts of money trying to obtain approval for product candidates that have an uncertain commercial market. The market for any products that we successfully develop will also depend on the cost of the product. We do not yet have sufficient information to reliably estimate what it will cost to commercially manufacture our current product candidates, and the actual cost to manufacture these products could materially and adversely affect the commercial viability of these products. If we do not successfully develop and commercialize products based upon our approach, we will not become profitable, which would materially and adversely affect the value of our business.

The market for our initial product candidates may be small.

We are initially developing a TIL therapy as a third line treatment of stage IV metastatic melanoma for patients who have failed all other currently approved treatments. The number of melanoma patients in this category is estimated to be approximately 8,000 annually. Not all of these patients can receive our TIL therapy because, among other factors, many patients have lesions that cannot be resected to collect their TILs. Our projections of both the number of people who have the cancers we are targeting, as well as the subset of people with these cancers in a position to receive third line therapy, and who have the potential to benefit from treatment with our product candidates, are based on our beliefs and estimates. These estimates have been derived from a variety of sources, including scientific literature, surveys of clinics, patient foundations, or market research, and may prove to be incorrect. Further, new studies may change the estimated incidence or prevalence of these cancers. The number of patients may turn out to be lower than expected. Even if we obtain significant market share for this product candidate, because the potential target populations are small, we may never achieve profitability based solely on this initial product candidate without obtaining regulatory approval for additional indications, including to be used as first or second line therapy.

No assurance can be given that we will be able to develop a new, more efficient manufacturing process upon which our business plan to commercialize TIL-based products is dependent.

Pursuant to the CRADA, and in cooperation with Lonza Walkersville and potentially other manufacturers, we intend to develop improved methods for generating and selecting autologous TILs, and to develop methods for large-scale production of autologous TILs that are in accord with current Good Manufacturing Practices ("cGMP") procedures. Developing a new, scaled-up, pharmaceutical manufacturing process that can more efficiently, and in a more automated manner measure, produce and control the physical and/or chemical attributes of our products in a cGMP facility is subject to many uncertainties and difficulties. We have never manufactured our adoptive cell therapy product candidate on any scale, commercial or otherwise, nor has Lonza Walkersville, Inc., our main manufacturing provider. As a result, we cannot give any assurance that we will be able to establish a manufacturing process that can produce our products at a cost or in quantities necessary to make them commercially viable. Moreover, our third-party manufacturers will have to continually adhere to current cGMP regulations enforced by the FDA through its facilities inspection program. If the facilities of these manufacturers cannot pass a pre-approval plant inspection, the FDA premarket approval of our products will not be granted. In complying with cGMP and foreign regulatory requirements, we and any of our third-party manufacturers will be obligated to expend time, money and effort in production, record-keeping and quality control to assure that our products meet applicable specifications and other requirements. If we or any of our third-party manufacturers fail to comply with these requirements, we may be subject to regulatory action. No assurance can be given that we will be able to develop such a manufacturing process, or that our partners will thereafter be able to establish and operate such a production facility.

We currently cannot prevent other companies from licensing the same intellectual properties that we have licensed or from otherwise duplicating our business model and operations.

The intellectual properties that we are using to develop TIL-based cancer therapy products were licensed to us by the NIH under the License Agreement. However, the License Agreement is non-exclusive, and any other party could obtain a license for some or all of the licensed intellectual properties that we currently use. No assurance can be given that the NIH has not previously licensed, or that the NIH hereafter will not license to other biotechnology companies some or all of the technologies available to us under the License Agreement. In addition, since the National Cancer Institute, MD Anderson Cancer Center, and the H. Lee Moffitt Cancer & Research Institute and others already use the ACT technology in therapy for the treatment of Stage IV metastatic melanoma, their methods and data are also available to third parties, who may want to enter into our line of business and compete against us. We currently do not own any exclusive rights that could be used to prevent third parties from duplicating our business plan or from otherwise directly competing against us. While technologies that may be developed for us under the CRADA are expected to provide us with the exclusive rights to those technologies, no assurance can be given that these new rights will be sufficient to prevent others from duplicating our business plan or from providing substantially similar products.

If we are unable to protect our proprietary rights, we may not be able to compete effectively or operate profitably.

Our success is dependent in part on maintaining and enforcing the patents and other proprietary rights that we have licensed and may develop, and on our ability to avoid infringing the proprietary rights of others. Patent law relating to the scope of claims in the biotechnology field in which we operate is still evolving and, consequently, patent positions in our industry may not be as strong as in other more well-established fields. Accordingly, the United States Patent and Trademark Office may not issue patents from the patent applications owned by or licensed to us. If issued, the patents may not give us an advantage over competitors with similar technology.

The issuance of a patent is not conclusive as to its validity or enforceability and it is uncertain how much protection, if any, will be given to the patents we have licensed from the NIH if either the NIH or we attempt to enforce the patents and if they are challenged in court or in other proceedings, such as oppositions, which may be brought in foreign jurisdictions to challenge the validity of a patent. A third party may challenge the validity or enforceability of a patent after its issuance by the Patent Office. It is possible that a competitor may successfully challenge our patents or that a challenge will result in limiting their coverage. Moreover, the cost of litigation to uphold the validity of patents and to prevent infringement can be substantial. If the outcome of

litigation is adverse to us, third parties may be able to use our patented invention without payment to us. Moreover, it is possible that competitors may infringe our patents or successfully avoid them through design innovation. To stop these activities we may need to file a lawsuit. These lawsuits are expensive and would consume time and other resources, even if we were successful in stopping the violation of our patent rights. In addition, there is a risk that a court would decide that our patents are not valid and that we do not have the right to stop the other party from using the inventions. There is also the risk that, even if the validity of our patents were upheld, a court would refuse to stop the other party on the ground that its activities are not covered by, that is, do not infringe, our patents.

We also intend to rely on unpatented technology, trade secrets and confidential information. Therefore, others may independently develop substantially equivalent information and techniques or otherwise gain access to or disclose our technology. We may not be able to effectively protect our rights in unpatented technology, trade secrets and confidential information. We require each of our employees, consultants and advisors to execute a confidentiality agreement at the commencement of an employment or consulting relationship with us. However, these agreements may not provide effective protection of our information or, in the event of unauthorized use or disclosure, they may not provide adequate remedies.

Competition in the field of cancer therapy is intense and many of our competitors have substantially greater managerial resources than we have.

Competition in the field of cancer therapy is intense and is accentuated by the rapid pace of technological development. Research and discoveries by others may result in breakthroughs which may render our products obsolete even before they generate any revenue. There are products currently under development by others that could compete with the products that we are developing. Many of our potential competitors have substantially greater research and development capabilities and manufacturing, marketing, financial and managerial resources than we do. Our competitors may:

- develop safer or more effective immunotherapeutics and other therapeutic products;
- reach the market more rapidly, reducing the potential sales of our products; or
- establish superior proprietary positions.

Potential competitors in the market for treating metastatic melanoma will be companies such as Bristol-Myers Squibb, Roche/Genentech, Merck, Amgen, Pfizer, and GlaxoSmithKline, which already have products on the market or in development. Other companies, such as Novartis, Celgene, Kite Pharmaceuticals, and Adaptimmune, which are focused on T cell therapies technologies to treat cancer, may also be competitors. All of these companies, and most of our other current and potential competitors have substantially greater research and development capabilities and financial, scientific, regulatory, manufacturing, marketing, sales, human resources, and experience than we do. Many of our competitors have several therapeutic products that have already been developed, approved and successfully commercialized, or are in the process of obtaining regulatory approval for their therapeutic products in the United States and internationally.

Universities and public and private research institutions are also potential competitors. While these organizations primarily have educational objectives, they may develop proprietary technologies or secure patent protection that we may need for the development of our technologies and products. We may attempt to license these proprietary technologies, but these licenses may not be available to us on acceptable terms, if at all.

Our competitors, either alone or with their collaborative partners, may succeed in developing technologies or products that are more effective, safer, more affordable or more easily commercialized than ours, and our competitors may obtain intellectual property protection or commercialize products sooner than we do. Developments by others may render our product candidates or our technologies obsolete making it difficult for us to generate revenues and the value of our common stock could decrease.

We anticipate that we will face increased competition in the future as new companies enter our markets and as scientific developments surrounding immunotherapy and other cancer therapies continue to accelerate. If our product candidates receive marketing approval but cannot compete effectively in the marketplace, our profitability and financial position would suffer.

We will be dependent on third party vendors to design, build, maintain and support our manufacturing and cell processing facilities and our information technology infrastructure and systems.

As a result of our strategy to out-source much of our research and development and all of our manufacturing, we rely very heavily on third parties to perform for us, or assist us with a variety of important functions, including research and development, manufacturing and clinical trials management. We also license all of our technology from others and, at this time, do not own any intellectual properties or technologies. We intend to rely upon Lonza Walkersville, Inc. or other third party contract manufacturers to produce large quantities of materials needed for clinical trials and product commercialization. Third party manufacturers may not be able to meet our needs with respect to timing, quantity or quality. If we are unable to contract for a sufficient supply of needed materials on acceptable terms, or if we should encounter delays or difficulties in our relationships with manufacturers, our clinical testing may be delayed, thereby delaying the submission of products for regulatory approval or the market introduction and subsequent sales of our products. Any such delay may lower our revenues and potential profitability.

We intend to rely heavily on third party vendors to design, build, maintain and support our information technology infrastructure and systems, and supply us with data center and bandwidth services. Any inability to design or delay in implementing such information technology infrastructure and systems that are compliant with 21 CFR §11, the FDA's guidelines on electronic records, and other regulations, or a disruption in network access or other services provided by these third party vendors, could significantly harm our business. Any financial or other difficulties our third-party vendors face may have negative effects on our business, the nature and extent of which we cannot predict. We will exercise little control over these third party vendors, which increases our vulnerability to any problems associated with the services they provide. We will need to license technology, software, and databases from third parties to facilitate certain aspects of the development of our information technology infrastructure and systems. Any errors, failures, interruptions or delays experienced in connection with these third party technologies and information services could negatively impact our business and could expose us to liabilities to third parties.

If any third party collaborator breaches or terminates its agreement with us, or fails to conduct its activities in a timely manner, the commercialization of our products under development could be slowed down or blocked completely. It is possible that our collaborators will change their strategic focus, pursue alternative technologies or develop alternative products, either on their own or in collaboration with others, as a means for developing treatments for the diseases targeted by our collaborative programs. The effectiveness of our collaborators in marketing our products will also affect our revenues and earnings.

We intend to continue to enter into additional third party collaborative agreements in the future. However, we may not be able to successfully negotiate any additional collaborative arrangements. If established, these relationships may not be scientifically or commercially successful.

The use of our technologies could potentially conflict with the rights of others.

Our potential competitors or others may have or acquire patent rights that they could enforce against us. If they do so, then we may be required to alter our products, pay licensing fees or cease activities. If our products conflict with patent rights of others, third parties could bring legal actions against us or our collaborators, licensees, suppliers or customers, claiming damages and seeking to enjoin manufacturing and marketing of the affected products. If these legal actions are successful, in addition to any potential liability for damages, we could be required to obtain a license in order to continue to manufacture or market the affected products. We may not prevail in any legal action and a required license under the patent may not be available on acceptable terms or at all.

We may incur substantial costs as a result of litigation or other proceedings relating to patent and other intellectual property rights.

The cost to us of any litigation or other proceeding relating to intellectual property rights, even if resolved in our favor, could be substantial. Some of our competitors may be better able to sustain the costs of complex patent litigation because they have substantially greater resources. If there is litigation against us, we may not be able to continue our operations.

Should third parties file patent applications, or be issued patents claiming technology also used or claimed by us, we may be required to participate in interference proceedings in the United States Patent and Trademark Office to determine priority of invention. We may be required to participate in interference proceedings involving our issued patents and pending applications. We may be required to cease using the technology or to license rights from prevailing third parties as a result of an unfavorable outcome in an interference proceeding. A prevailing party in that case may not offer us a license on commercially acceptable terms.

We are exposed to potential product liability claims, and insurance against these claims may not be available to us at a reasonable rate in the future.

Our business exposes us to potential product liability risks, which are inherent in the testing, manufacturing, marketing and sale of pharmaceutical products. We do not have clinical trial insurance coverage, but we intend to obtain such liability coverage in the future. However, such insurance coverage may not be available to us at an acceptable cost, if at all. We may not be able to obtain insurance coverage that will be adequate to satisfy any liability that may arise. Regardless of merit or eventual outcome, liability claims may result in decreased demand for a product, injury to our reputation, withdrawal of clinical trial volunteers and loss of revenues. Thus, whether or not we are insured, a liability claim or product recall may result in losses that could be material.

Risks Related to Our Securities

Because our stock is quoted on the OTC QB market, our stock trading volume fluctuates and often trades at low volumes, so you may be unable to sell your shares at or near the quoted bid prices if you need to sell your shares.

The shares of our common stock are traded on the OTC QB market. Shares on the OTC QB typically trade at lower volumes than on Nasdaq or on an exchange, meaning that the number of persons interested in purchasing our common shares at or near bid prices at any given time may be relatively small. In addition, the smaller number of persons interested in investing in our stock may be attributable to a number of other factors, including the fact that we are a small early stage company which is relatively unknown to stock analysts, stock brokers, institutional investors and others in the investment community who can generate or influence sales volume, and that even if we came to the attention of such institutionally oriented persons, they tend to be risk-averse in this environment and would be reluctant to follow an early stage company such as ours or purchase or recommend the purchase of our shares until such time as we became more seasoned and viable. As a consequence, there may be periods when trading activity in our shares is small as compared to a seasoned issuer which has a large and steady volume of trading activity that will generally support continuous sales without an adverse effect on share price. We cannot give you any assurance that a broader or more active public trading market for our common shares will develop or be sustained. The limited liquidity in our shares, the OTC QB quotation, the limited analyst coverage and other factors may have an adverse impact on the trading price of our stock. Due to these conditions, we can give you no assurance that you will be able to sell your shares at or near bid prices or at all if you need money or otherwise desire to liquidate your shares. As a result, investors could lose all or part of their investment.

You may have difficulty selling our shares because they may be deemed to be “penny stocks.”

Our common stock may be deemed a “penny stock” (as that term is defined under Rule 3a51-1 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”)) in the future. Generally, a “penny stock” is a common stock that is not listed on a securities exchange and trades for less than $5.00 a share. Prices often are not available to buyers and sellers and the market may be very limited. Penny stocks in start-up

companies are among the riskiest equity investments. Broker-dealers who sell penny stocks must provide purchasers of these stocks with a standardized risk-disclosure document prepared by the SEC. The document provides information about penny stocks and the nature and level of risks involved in investing in the penny stock market. A broker must also provide purchasers with bid and offer quotations and information regarding broker and salesperson compensation and make a written determination that the penny stock is a suitable investment for the purchaser and obtain the purchaser's written agreement to the purchase. Many brokers choose not to participate in penny stock transactions. Because of the penny stock rules, there may be less trading activity in penny stocks in any market that develops for our common stock in the future and stockholders are likely to have difficulty selling their shares

Our existing directors and executive officers hold a substantial amount of our common stock and may be able to prevent other stockholders from influencing significant corporate decisions.

As of November 19, 2014, our officers and directors beneficially owned approximately 34% of our outstanding common stock. These stockholders, if they act together, may be able to direct, or materially affect the outcome of matters presented to our stockholders, including the election of our directors and other corporate actions such as:

- our merger with or into another company;
- a sale of substantially all of our assets; and
- amendments to our articles of incorporation.

The decisions of these stockholders may conflict with our interests or those of our other stockholders.

The market price of our stock may be adversely affected by market volatility.

The market price of our common stock is likely to be volatile and could fluctuate widely in response to many factors, including:

- announcements of the results of clinical trials by us or our competitors;
- developments with respect to patents or proprietary rights;
- announcements of technological innovations by us or our competitors;
- announcements of new products or new contracts by us or our competitors;
- actual or anticipated variations in our operating results due to the level of development expenses and other factors;
- changes in financial estimates by securities analysts and whether our earnings meet or exceed such estimates;
- conditions and trends in the pharmaceutical and other industries;
- general economic, political and market conditions and other factors; and
- the occurrence of any of the risks described in this prospectus.

You may experience future dilution as a result of future equity offerings or other equity issuances.

We will have to raise substantial amounts of additional capital in the future. 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. 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. The price per share at which we sell additional shares of our common stock or other securities convertible into or exchangeable for our common stock in future transactions may be higher or lower than the price per share in this offering.

Future sales of our common stock may depress our stock price.

As of November 19, 2014, we had approximately 27,639,688 shares of our common stock outstanding. In addition, the number of registered shares will increase by an additional 14,019,426 shares if all of the remaining shares of Series A Preferred are converted into shares of our common stock and all of the remaining warrants issued in the Private Placement are exercised for the purchase of additional shares of our common stock. During the past year, however, the average daily trading volume of our shares has fluctuated significantly, and there have been days in which the number of shares that were traded was very small. The sudden release of all of these additional freely trading shares onto the market would, most likely, have an adverse effect on the trading price of our stock. No prediction can be made as to the effect, if any, that sales of the shares included in this prospectus or the shares subject to Rule 144 sales will have on the market prices prevailing from time to time. Nevertheless, the possibility that substantial amounts of common stock may be sold in the public market may adversely affect prevailing market prices for our common stock and could impair our ability to raise capital through the sale of our equity securities

If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results. As a result, we could become subject to sanctions or investigations by regulatory authorities and/or stockholder litigation, which could harm our business and have an adverse effect on our stock price.

As a public reporting company, we are subject to various regulatory requirements, including the Sarbanes-Oxley Act of 2002, which requires our management to assess and report on our internal controls over financial reporting. As a small company with few employees, we may not have sufficient personnel to properly conduct all of internal control procedures and activities that require segregation of powers and responsibilities. While we are attempting to remedy this possible internal control weakness, we may not be able to fully comply with the internal control requirements of the Sarbanes-Oxley Act of 2002, and future material weaknesses in our internal controls may arise. Material weaknesses in our internal controls could result in a loss of investor confidence in our financial reports, have an adverse effect on our stock price, and subject us to sanctions or investigation by regulatory authorities or stockholder litigation.

Our board of directors could issue additional series of preferred stock without stockholder approval with the effect of diluting existing stockholders and impairing their voting rights.

Our articles of incorporation authorize the issuance of up to 50,000,000 shares of “blank check” preferred stock (of which only 17,000 have been designated as the Series A Preferred) with designations, rights and preferences as may be determined from time to time by our board of directors. Our board is empowered, without stockholder approval, to issue one or more series of preferred stock with dividend, liquidation, conversion, voting or other rights which could dilute the interest of, or impair the voting power of, our common stockholders. The issuance of a series of preferred stock could be used as a method of discouraging, delaying or preventing a change in control. For example, it would be possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to effect a change in control of our company.

We do not anticipate paying cash dividends for the foreseeable future, and therefore investors should not buy our stock if they wish to receive cash dividends.

We have never declared or paid any cash dividends or distributions on our common stock. We currently intend to retain any future earnings to support operations and to finance expansion and, therefore, we do not anticipate paying any cash dividends on our common stock in the foreseeable future.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

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

We will 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 filed with the SEC and our Quarterly Reports on Form 10-Q filed subsequently with the SEC.

USE OF PROCEEDS

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

THE SECURITIES THAT WE MAY OFFER

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

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

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

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

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

DESCRIPTION OF SECURITIES

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

DESCRIPTION OF COMMON STOCK

We are presently authorized to issue 150,000,000 shares of $0.000041666 par value common stock and 50,000,000 shares of $0.001 par value preferred stock. As of November 19, 2014 we had 27,639,688 shares of common stock issued and outstanding, and we had outstanding warrants to purchase an additional 11,172,426 shares of our 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 articles of incorporation and bylaws could have the effect of delaying or discouraging another party from acquiring control of us and could encourage persons seeking to acquire control of us to first negotiate with our board of directors:

- our bylaws permit stockholders to call a special meeting of stockholders only if the holders of a majority of the voting power of our outstanding stock request such a meeting;
- our bylaws provide that our board of directors will establish the authorized number of directors from time to time;
- our articles of incorporation do not permit cumulative voting in the election of directors; and
- our articles of incorporation permit our board of directors to determine the rights, privileges and preferences of any new series of preferred stock, some of which could impede the ability of a person to acquire control of our company.

The transfer agent and registrar of our common stock is Corporate Stock Transfer, Inc. The address of our transfer agent and registrar is 3200 Cherry Creek Drive South, Suite 430, Denver, CO 80209, and its telephone number is (303) 282-4800.

Our common stock is traded on the OTCQB under the symbol “LBIO.”

DESCRIPTION OF PREFERRED STOCK

We have authority to issue 50,000,000 shares of preferred stock, par value $0.001 per share. As of the date of this prospectus, we have 5,694 shares of Series A Convertible Preferred Stock (the “Series A Preferred”) issued and outstanding. The rights and restrictions granted or imposed on Series A Preferred shares are described below under the heading “Series A Preferred.”

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

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

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

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

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

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

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

Series A Preferred

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

The Series A Preferred may, at the option of the holder, be converted at any time or from time to time into fully paid and non-assessable shares of common stock at the conversion price in effect at the time of conversion; provided, that a holder of Series A Preferred may at any given time convert only up to that number of shares of Series A Preferred so that, upon conversion, the aggregate beneficial ownership of the common stock (calculated pursuant to Rule 13d-3 of the Securities Exchange Act of 1934, as amended) of such holder and all persons affiliated with such holder, is not more than 4.99% of the common stock then outstanding (subject to adjustment up to 9.99% solely at the holder’s discretion upon 60 days’ prior notice). The number of shares into which one share of Series A Preferred shall be convertible is determined by dividing the stated value of $1,000 per share by the initial Conversion Price. The “Conversion Price” per share for the Series A Preferred is initially equal to $2.00 (subject to appropriate adjustment for certain events, including stock splits, stock dividends, combinations, recapitalizations or other recapitalizations affecting the Series A Preferred).

The Series A Preferred will automatically be converted into common stock at the then applicable Conversion Price (i) upon the written consent of the holders holding at least a majority of the outstanding shares of Series A Preferred or (ii) if required by us to be able to list our common stock on a national securities exchange; provided, any such conversions will continue to be limited by, and subject to the beneficial ownership conversion limitations set forth above.

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

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

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

DESCRIPTION OF DEBT SECURITIES

The following is a summary of the general terms of the debt securities that we may offer. We will file a prospectus supplement that may contain additional terms when we issue debt securities. The terms presented here, together with the terms in a related prospectus supplement, will be a description of the material terms of the debt securities. You should also read the indenture under which the debt securities are to be issued. We have filed a form of indenture governing different types of debt securities with the SEC as an exhibit to the registration statement of which this prospectus is a part.

We may issue, from time to time, debt securities, in one or more series. The debt securities we offer will be issued under an indenture between us and the trustee named in the indenture. The debt securities that we may issue include senior debt securities, subordinated debt securities, convertible debt securities and exchangeable debt securities.

The following is a summary of the material provisions of the indenture filed as an exhibit to the registration statement of which this prospectus is a part. For each series of debt securities, the applicable prospectus supplement for the series may change and supplement the summary below.

General Terms of the Indenture

The indenture provides that we may issue debt securities up to the principal amount that we may authorize, and they may be in any currency or currency unit that we may designate. Except for the limitations on consolidation, merger and sale of all or substantially all of our assets contained in the indenture, the terms of the indenture do not contain any covenants or other provisions designed to give holders of any debt securities protection against changes in our operations, financial condition or transactions involving us. For each series of debt securities, any restrictive covenants for those debt securities will be described in the applicable prospectus supplement for those debt securities.

We may issue the debt securities issued under the indenture as “discount securities,” which means they may be sold at a discount below their stated principal amount. These debt securities, as well as other debt securities that are not issued at a discount, may, for United States federal income tax purposes, be treated as if they were issued with “original issue discount” because of interest payment and other characteristics. Special U.S. federal income tax considerations applicable to debt securities issued with original issue discount will be described in more detail in any applicable prospectus supplement.

You should refer to the prospectus supplement relating to a particular series of debt securities for a description of the following terms of the debt securities offered by that prospectus supplement and by this prospectus:

- the title and authorized denominations of those debt securities;
- any limit on the aggregate principal amount of that series of debt securities;
- the date or dates on which principal and premium, if any, of the debt securities of that series is payable;
- interest rates, and the dates from which interest, if any, on the debt securities of that series will accrue, and the dates when interest is payable;
- the right, if any, to extend the interest payment periods and the duration of the extensions;
- if the amount of payments of principal or interest is to be determined by reference to an index or formula, or based on a coin or currency other than that in which the debt securities are stated to be payable, the manner in which these amounts are determined and the calculation agent, if any, with respect thereto;
- the place or places where and the manner in which principal of, premium, if any, and interest, if any, on the debt securities of that series will be payable and the place or places where those debt securities may be presented for transfer and, if applicable, conversion or exchange;

- the period or periods within which, the price or prices at which, the currency or currencies in which, and other terms and conditions upon which those debt securities may be redeemed, in whole or in part, at our option or the option of a holder of those securities, if we or a holder is to have that option;
- our obligation or right, if any, to redeem, repay or purchase those debt securities pursuant to any sinking fund or analogous provision or at the option of a holder of those securities, and the terms and conditions upon which the debt securities will be redeemed, repaid or purchased, in whole or in part, pursuant to that obligation;
- the terms, if any, on which the debt securities of that series will be subordinate in right and priority of payment to our other debt;
- the denominations in which the debt securities will be issuable;
- if other than the entire principal amount of the debt securities when issued, the portion of the principal amount payable upon acceleration of maturity as a result of a default on our obligations;
- whether the debt securities will be issued in fully registered form without coupons or in a form registered as to principal only with coupons or in bearer form with coupons;
- whether any securities of that series are to be issued in whole or in part in the form of one or more global securities and the depositary for those global securities;
- if other than United States dollars, the currency or currencies in which payment of principal of or any premium or interest on those debt securities will be payable;
- if the principal of or any premium or interest on the debt securities of that series is to be payable, or is to be payable at our election or the election of a holder of those securities, in securities or other property, the type and amount of those securities or other property, or the manner of determining that amount, and the period or periods within which, and the terms and conditions upon which, any such election may be made;
- the events of default and covenants relating to the debt securities that are in addition to, or modify or delete, those described in this prospectus;
- conversion or exchange provisions, if any, including conversion or exchange prices or rates and adjustments thereto;
- whether and upon what terms the debt securities may be defeased, if different from the provisions set forth in the indenture;
- the nature and terms of any security for any secured debt securities;
- the terms applicable to any debt securities issued at a discount from their stated principal amount; and
- any other material terms of the debt securities.

The applicable prospectus supplement will present material United States federal income tax considerations for holders of any debt securities and the securities exchange or quotation system on which any debt securities are to be listed or quoted.

Conversion or Exchange Rights

Debt securities may be convertible into or exchangeable for shares of our equity securities or other securities. The terms and conditions of conversion or exchange will be stated in the applicable prospectus supplement. The terms will include, among others, the following:

- the conversion or exchange price;
- the conversion or exchange period;
- provisions regarding our ability or the ability of any holder to convert or exchange the debt securities;
- events requiring adjustment to the conversion or exchange price; and
- provisions affecting conversion or exchange in the event of our redemption of the debt securities.

Consolidation, Merger or Sale

We cannot consolidate or merge with or into, or transfer or lease all or substantially all of our assets to, any person, unless the successor corporation or person to which our assets are transferred or leased is organized under the laws of the United States, any state of the United States or the District of Columbia and it expressly assumes our obligations under the debt securities and the indenture. In addition, we cannot complete such a transaction unless immediately after completing the transaction, no event of default under the indenture, and no event that, after notice or lapse of time or both, would become an event of default under the indenture, has occurred and is continuing. When the person to whom our assets are transferred or leased has assumed our obligations under the debt securities and the indenture, we will be discharged from all our obligations under the debt securities and the indenture except in limited circumstances.

This covenant would not apply to any recapitalization transaction, a change of control affecting us or a highly leveraged transaction, unless the transaction or change of control were structured to include a merger or consolidation or transfer or lease of all or substantially all of our assets.

Events of Default

The indenture provides that the following will be “events of default” with respect to any series of debt securities:

- failure to pay interest for thirty days after the date payment is due and payable;
- failure to pay principal or premium, if any, on any debt security when due, either at maturity, upon any redemption, by declaration or otherwise and, in the case of technical or administrative difficulties, only if such default persists for a period of more than three business days;
- failure to make sinking fund payments when due and continuance of such default for a period of 30 days;
- failure to perform other covenants for 60 days after notice that performance was required;
- events in bankruptcy, insolvency or reorganization relating to us; or
- any other event of default provided in the applicable officer’s certificate, resolution of our board of directors or the supplemental indenture under which we issue a series of debt securities.

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 indenture. For each series of debt securities, any modifications to the above events of default will be described in the applicable prospectus supplement for those debt securities.

The indenture provides that if an event of default specified in the first, second, third, fourth or sixth bullets above occurs and is continuing, either the trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series may declare the principal amount of all those debt securities (or, in the case of discount securities or indexed securities, that portion of the principal amount as may be specified in the terms of that series) to be due and payable immediately. If an event of default specified in the fifth bullet above occurs and is continuing, then the principal amount of all those debt securities (or, in the case of discount securities or indexed securities, that portion of the principal amount as may be specified in the terms of that series) will be due and payable immediately, without any declaration or other act on the part of the trustee or any holder. In certain cases, holders of a majority in principal amount of the outstanding debt securities of any series may, on behalf of holders of all those debt securities, rescind and annul a declaration of acceleration.

The indenture imposes limitations on suits brought by holders of debt securities against us. Except for actions for payment of overdue principal or interest, no holder of debt securities of any series may institute any action against us under the indenture unless:

- the holder has previously given to the trustee written notice of default and continuance of such default;
- the holders of at least 25% in principal amount of the outstanding debt securities of the affected series have requested that the trustee institute the action;
- the requesting holders have offered the trustee indemnity for the reasonable expenses and liabilities that may be incurred by bringing the action;
- the trustee has not instituted the action within 60 days of the request and offer of indemnity; and
- the trustee has not received inconsistent direction by the holders of a majority in principal amount of the outstanding debt securities of the affected series.

We will be required to file annually with the trustee a certificate, signed by one of our officers, stating whether or not the officer knows of any default by us in the performance, observance or fulfillment of any condition or covenant of the indenture.

Discharge, Defeasance and Covenant Defeasance

We can discharge or decrease our obligations under the indenture as stated below.

We may discharge obligations to holders of any series of debt securities that have not already been delivered to the trustee for cancellation and that have either become due and payable or are by their terms to become due and payable, or are scheduled for redemption, within one year. We may effect a discharge by irrevocably depositing with the trustee cash or government obligations denominated in the currency of the debt securities, as trust funds, in an amount certified to be enough to pay when due, whether at maturity, upon redemption or otherwise, the principal of, and any premium and interest on, the debt securities and any mandatory sinking fund payments.

Unless otherwise provided in the applicable prospectus supplement, we may also discharge any and all of our obligations to holders of any series of debt securities at any time, which we refer to as defeasance. We may also be released from the obligations imposed by any covenants of any outstanding series of debt securities and provisions of the indenture, and we may omit to comply with those covenants without creating an event of default under the trust declaration, which we refer to as covenant defeasance. We may effect defeasance and covenant defeasance only if, among other things:

- we irrevocably deposit with the trustee cash or government obligations denominated in the currency of the debt securities, as trust funds, in an amount certified to be enough to pay at maturity, or upon redemption, the principal (including any mandatory sinking fund payments) of, and any premium and interest on, all outstanding debt securities of the series; and

- we deliver to the trustee an opinion of counsel from a nationally recognized law firm to the effect that the holders of the series of debt securities will not recognize income, gain or loss for U.S. federal income tax purposes as a result of the defeasance or covenant defeasance and that defeasance or covenant defeasance will not otherwise alter the holders' U.S. federal income tax treatment of principal, and any premium and interest payments on, the series of debt securities.

In the case of a defeasance by us, the opinion we deliver must be based on a ruling of the Internal Revenue Service issued, or a change in U.S. federal income tax law occurring, after the date of the indenture, since such a result would not occur under the U.S. federal income tax laws in effect on that date.

Although we may discharge or decrease our obligations under the indenture as described in the preceding paragraphs, we may not avoid, among other things, our duty to register the transfer or exchange of any series of debt securities, to replace any temporary, mutilated, destroyed, lost or stolen series of debt securities or to maintain an office or agency in respect of any series of debt securities.

Modification of the Indenture

The indenture provides that we and the trustee may enter into supplemental indentures without the consent of the holders of debt securities to, among other things:

- evidence the assumption by a successor entity of our obligations;
- add to our covenants for the benefit of the holders of debt securities, or to surrender any rights or power conferred upon us;
- add any additional events of default;
- cure any ambiguity or correct any inconsistency or defect in the indenture;
- add to, change or eliminate any of the provisions of the indenture in a manner that will become effective only when there is no outstanding debt security which is entitled to the benefit of the provision as to which the modification would apply;
- secure any debt securities;
- establish the forms or terms of debt securities of any series;
- evidence and provide for the acceptance of appointment by a successor trustee and add to or change any of the provisions of the indenture as is necessary for the administration of the trusts by more than one trustee;
- modify, eliminate or add to the provisions of the indenture as shall be necessary to effect the qualification of the indenture under the Trust Indenture Act of 1939, as amended, or under any similar federal statute later enacted, and to add to the indenture such other provisions as may be expressly required by the Trust Indenture Act; and
- make any other provisions with respect to matters or questions arising under the indenture that will not be inconsistent with any provision of the indenture as long as the new provisions do not adversely affect the interests of the holders of any outstanding debt securities of any series created prior to the modification.

The indenture also provides that we and the trustee may, with the consent of the holders of not less than a majority in aggregate principal amount of debt securities of each series of debt securities affected by such supplemental indenture then outstanding, add any provisions to, or change in any manner, eliminate or modify in any way the provisions of, the indenture or any supplemental indenture or modify in any manner the rights of the holders of the debt securities. We and the trustee may not, however, without the consent of the holder of each outstanding debt security affected thereby:

- extend the final maturity of any debt security;
- reduce the principal amount or premium, if any;
- reduce the rate or extend the time of payment of interest;
- reduce the amount of the principal of any debt security issued with an original issue discount that is payable upon acceleration;
- change the currency in which the principal, and any premium or interest, is payable;
- impair the right to institute suit for the enforcement of any payment on any debt security when due;
- if applicable, adversely affect the right of a holder to convert or exchange a debt security; or
- reduce the percentage of holders of debt securities of any series whose consent is required for any modification of the indenture or for waivers of compliance with or defaults under the indenture with respect to debt securities of that series.

The indenture provides that the holders of not less than a majority in aggregate principal amount of the then-outstanding debt securities of any series, by notice to the relevant trustee, may on behalf of the holders of the debt securities of that series waive any default and its consequences under the indenture except:

- a default in the payment of, any premium and any interest on, or principal of, any such debt security held by a nonconsenting holder; or
- a default in respect of a covenant or provision of the indenture that cannot be modified or amended without the consent of the holder of each outstanding debt security of each series affected.

Registered Global Securities and Book Entry System

The debt securities of a series may be issued in whole or in part in book-entry form and will be represented by one or more fully registered global securities. We will deposit any registered global securities with a depositary or with a nominee for a depositary identified in the applicable prospectus supplement and registered in the name of such depositary or nominee. In such case, we will issue one or more registered global securities denominated in an amount equal to the aggregate principal amount of all of the debt securities of the series to be issued and represented by such registered global security or securities. This means that we will not issue certificates to each holder.

Unless and until it is exchanged in whole or in part for debt securities in definitive registered form, a registered global security may not be transferred except as a whole:

- by the depositary for the registered global security to its nominee;
- by a nominee of the depositary to the depositary or another nominee of the depositary; or
- by the depositary or its nominee to a successor of the depositary or a nominee of the successor.

The prospectus supplement relating to a series of debt securities will describe the specific terms of the depositary arrangement involving any portion of the series represented by a registered global security. We anticipate that the following provisions will apply to all depositary arrangements for debt securities:

- ownership of beneficial interests in a registered global security will be limited to persons that have accounts with the depositary for such registered global security, these persons being referred to as “participants,” or persons that may hold interests through participants;
- upon the issuance of a registered global security, the depositary for the registered global security will credit, on its book-entry registration and transfer system, the participants’ accounts with the respective principal amounts of the debt securities represented by the registered global security beneficially owned by the participants;
- any dealers, underwriters, or agents participating in the distribution of the debt securities will designate the accounts to be credited; and
- ownership of beneficial interests in the registered global security will be shown on, and the transfer of the ownership interests will be effected only through, records maintained by the depositary for the registered global security for interests of participants, and on the records of participants for interests of persons holding through participants.

The laws of some states may require that specified purchasers of securities take physical delivery of the securities in definitive form. These laws may limit the ability of those persons to own, transfer or pledge beneficial interests in registered global securities.

So long as the depositary for a registered global security, or its nominee, is the registered owner of the registered global security, the depositary or such nominee, as the case may be, will be considered the sole owner or holder of the debt securities represented by the registered global security for all purposes under the indenture. Except as stated below, owners of beneficial interests in a registered global security:

- will not be entitled to have the debt securities represented by a registered global security registered in their names;
- will not receive or be entitled to receive physical delivery of the debt securities in the definitive form; and
- will not be considered the owners or holders of the debt securities under the relevant indenture.

Accordingly, each person owning a beneficial interest in a registered global security must rely on the procedures of the depositary for the registered global security and, if the person is not a participant, on the procedures of a participant through which the person owns its interest, to exercise any rights of a holder under the indenture.

We understand that under existing industry practices, if we request any action of holders or if an owner of a beneficial interest in a registered global security desires to give or take any action that a holder is entitled to give or take under the indenture, the depositary for the registered global security would authorize the participants holding the relevant beneficial interests to give or take the action, and the participants would authorize beneficial owners owning through the participants to give or take the action or would otherwise act upon the instructions of beneficial owners holding through them.

We will make payments of principal and premium, if any, and interest, if any, on debt securities represented by a registered global security registered in the name of a depositary or its nominee to the depositary or its nominee, as the case may be, as the registered owners of the registered global security. Neither we nor the trustee, or any other agent of ours or the trustee will be responsible or liable for any aspect of the records relating to, or payments made on account of, beneficial ownership interests in the registered global security or for maintaining, supervising or reviewing any records relating to the beneficial ownership interests.

We expect that the depositary for any debt securities represented by a registered global security, upon receipt of any payments of principal and premium, if any, and interest, if any, in respect of the registered global security, will credit participants' accounts with payments in amounts proportionate to their respective beneficial interests in the registered global security as shown on the records of the depositary. We also expect that standing customer instructions and customary practices will govern payments by participants to owners of beneficial interests in the registered global security held through the participants, as is now the case with the securities held for the accounts of customers in bearer form or registered in "street name." We also expect that any of these payments will be the responsibility of the participants.

If the depositary for any debt securities represented by a registered global security is at any time unwilling or unable to continue as depositary or stops being a clearing agency registered under the Securities Exchange Act of 1934, as amended, we will appoint an eligible successor depositary. If we fail to appoint an eligible successor depositary within 90 days, we will issue the debt securities in definitive form in exchange for the registered global security. In addition, we may at any time and in our sole discretion decide not to have any of the debt securities of a series represented by one or more registered global securities. In that event, we will issue debt securities of the series in a definitive form in exchange for all of the registered global securities representing the debt securities. The trustee will register any debt securities issued in definitive form in exchange for a registered global security in the name or names as the depositary, based upon instructions from its participants, shall instruct the trustee.

We may also issue bearer debt securities of a series in the form of one or more global securities, referred to as "bearer global securities." We will deposit these securities with a depositary identified in the prospectus supplement relating to the series. The prospectus supplement relating to a series of debt securities represented by a bearer global security will describe the applicable terms and procedures. These will include the specific terms of the depositary arrangement and any specific procedures for the issuance of debt securities in definitive form in exchange for a bearer global security, in proportion to the series represented by a bearer global security.

Concerning the Trustee

The indenture provides that there may be more than one trustee under the indenture, each for one or more series of debt securities. If there are different trustees for different series of debt securities, each trustee will be a trustee of a trust under the indenture separate and apart from the trust administered by any other trustee under that indenture. Except as otherwise indicated in this prospectus or any prospectus supplement, any action permitted to be taken by a trustee may be taken by such trustee only on the one or more series of debt securities for which it is the trustee under the indenture. Any trustee under the indenture may resign or be removed from one or more series of debt securities. All payments of principal of, and any premium and interest on, and all registration, transfer, exchange, authentication and delivery of, the debt securities of a series will be effected by the trustee for that series at an office designated by the trustee.

The indenture provides that, except during the continuance of an event of default, the trustee will perform only such duties as are specifically set forth in the indenture. During the existence of an event of default, the trustee will exercise those rights and powers vested in it under the indenture and use the same degree of care and skill in its exercise as a prudent person would exercise under the circumstances in the conduct of such person's own affairs.

If the trustee becomes a creditor of ours, the indenture places limitations on the right of the trustee to obtain payment of claims or to realize on property received in respect of any such claim as security or otherwise. The trustee may engage in other transactions. If it acquires any conflicting interest relating to any duties concerning the debt securities, however, it must eliminate the conflict or resign as trustee.

No Individual Liability of Incorporators, Stockholders, Officers or Directors

The indenture provides that no past, present or future director, officer, stockholder or employee of ours, any of our affiliates, or any successor corporation, in their capacity as such, shall have any individual liability for any of our obligations, covenants or agreements under the debt securities or the indenture.

Governing Law

The indenture and the debt securities will be governed by, and construed in accordance with, the laws of the State of New York.

DESCRIPTION OF WARRANTS

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

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

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

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

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

DESCRIPTION OF UNITS

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

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

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

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

PLAN OF DISTRIBUTION

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

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

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

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

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

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

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

Any common stock issued by us will be traded on the OTCQB 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.

In compliance with the guidelines of the Financial Industry Regulatory Authority, Inc. (“**FINRA**”), the maximum consideration or discount to be received by any FINRA member or independent broker dealer may not exceed 8% of the aggregate proceeds of the offering.

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

TroyGould PC, Los Angeles, California, and Crone Kline Rinde LLP, New York, have rendered opinions about certain matters with respect to the securities offered by this prospectus. Certain members, employees and of counsel of TroyGould PC beneficially own in the aggregate 560,000 shares and options or warrants to acquire shares of our common stock. The beneficial ownership of our shares described above includes all options that may be exercised within 60 days from the date of this prospectus.

EXPERTS

Our financial statements for the years ended December 31, 2013 and December 31, 2012 and for the period September 17, 2007 (inception) to December 31, 2013, which are incorporated into this prospectus by reference to our Annual Report on Form 10-K for the year ended December 31, 2013, have been so incorporated in reliance on the report of Weinberg & Company, P.A., independent registered public accounting firm, upon the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the information and periodic reporting requirements of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) and, in accordance with that act, file periodic reports and other information with the SEC. The periodic reports and other information filed by us are available for inspection and copying at prescribed rates at the SEC’s Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information about the operation of the SEC’s Public Reference Room. The SEC also maintains an Internet site that contains all reports and other information that we file electronically with the SEC. The address of that website is *www.sec.gov*.

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

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

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

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

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2013, filed with the SEC on March 28, 2014;
- Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2014, June 30, 2014, and September 30, 2014 filed with the SEC on May 14, 2014, August 8, 2014 and November 13, 2014, respectively;
- Our Current Reports on Form 8-K filed with the SEC on April 8, 2014, May 19, 2014, July 23, 2014, July 25, 2014, July 30, 2014, August 26 2014, September 9, 2014, November 5, 2014, and November 12, 2014, respectively; and
- Each document that we file with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date on which we filed the Form S-3 Registration Statement and before the termination of this offering, with information in each such filing to be deemed to be incorporated by reference into this prospectus as of the date we make the filing with the SEC.

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: Lion Biotechnologies, Inc., 21900 Burbank Boulevard, Third Floor, Woodland Hills, California 91367; (818) 992-3126.

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

TABLE OF CONTENTS

8,000,000 Shares

Common Stock

PROSPECTUS SUPPLEMENT

Joint Book-Running Managers

Jefferies

Cowen and Company

Piper Jaffray

Co-Manager

Roth Capital Partners

February 26, 2015