



**Cleveland BioLabs, Inc. 2013 Employee Stock Purchase Plan**

(Full title of the plan)

Yakov Kogan

Chief Executive Officer

Cleveland BioLabs, Inc.

73 High Street

Buffalo, New York 14203

(Name and address of agent for service)

(716) 849-6810

(Telephone number, including area code, of agent for service)

Copies to:

Gregory Sichenzia, Esq.

Marcelle Balcombe, Esq.

Jeff Cahlon, Esq.

Sichenzia Ross Friedman Ference LLP

61 Broadway

New York, New York 10006

Phone: (212) 930-9700

Fax: (212) 930-9725

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

(do not check if a smaller reporting company)

**CALCULATION OF REGISTRATION FEE**

Title of each class of securities to be registered	Amount to be Registered <sup>(1)</sup>	Proposed Maximum Offering Price Per Security	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, \$0.005 par value	650,000	(2) \$ 3.15	\$2,047,500(4)	\$ 237.92
Common Stock, \$0.005 par value	225,000	(3) \$ 3.15	\$708,750	(4) \$ 82.36
Total	875,0000		\$2,756,250(4)	\$ 320.28

Pursuant to Rule 416 promulgated under the Securities Act of 1933, as amended, there are also registered (1) hereunder such indeterminate number of additional shares as may be issued to prevent dilution resulting from stock splits, stock dividends or similar transactions.

(2) Represents shares issuable pursuant to the Cleveland BioLabs, Inc. Equity Incentive Plan.

(3) Represents shares issuable pursuant to the Cleveland BioLabs, Inc. 2013 Employee Stock Purchase Plan.

Estimated solely for purposes of calculating the registration fee in accordance with Rule 457(c) under the Securities Act of 1933, as amended, using the average of the high and low price as reported on the NASDAQ Capital Market on April 22, 2015.

## **PART I**

### **INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS**

This Registration Statement relates to two separate prospectuses.

Section 10(a) Prospectus: Items 1 and 2, from this page, and the documents incorporated by reference pursuant to Part II, Item 3 of this prospectus, constitute a prospectus that meets the requirements of Section 10(a) of the Securities Act of 1933, as amended (the “Securities Act”).

Reoffer Prospectus: The material that follows Item 2, up to but not including Part II of this Registration Statement, of which the reoffer prospectus is a part, constitutes a “reoffer prospectus,” prepared in accordance with the requirements of Part I of Form S-3 under the Securities Act. Pursuant to Instruction C of Form S-8, the reoffer prospectus may be used for reoffers or resales of shares of common stock which are deemed to be “control securities” or “restricted securities” under the Securities Act that have been acquired by the selling stockholders named in the reoffer prospectus.

#### **Item 1. Plan Information.**

Cleveland BioLabs, Inc. will provide each participant (the “Recipient”) with documents that contain information related to the Cleveland BioLabs, Inc. Equity Incentive Plan and the Cleveland BioLabs, Inc. 2013 Employee Stock Purchase Plan, and other information including, but not limited to, the disclosure required by Item 1 of Form S-8, which information is not filed as a part of this Registration Statement on Form S-8. The foregoing information and the documents incorporated by reference in response to Item 3 of Part II of this Registration Statement taken together constitute a prospectus that meets the requirements of Section 10(a) of the Securities Act. A copy of Section 10(a) prospectus will be given to each Recipient who receives shares of common stock covered by this Registration Statement, in accordance with Rule 428(b)(1) under the Securities Act.

#### **Item 2. Registrant Information and Employee Plan Annual Information.**

We will provide to each Recipient a written statement advising it of the availability of documents incorporated by reference in Item 3 of Part II of this Registration Statement and of documents required to be delivered pursuant to Rule 428(b) under the Securities Act without charge and upon written or oral notice by contacting:

Cleveland BioLabs, Inc.

73 High Street

Buffalo, New York 14203

Attention: Corporate Secretary

Telephone: (716) 849-6810

**Information required by Part I to be contained in Section 10(a) prospectus is omitted from the Registration Statement in accordance with Rule 428 under the Securities Act of 1933, and Note to Part I of Form S-8.**

## **REOFFER PROSPECTUS**

**Cleveland BioLabs, Inc.**

### **243,060 Shares of Common Stock**

This reoffer prospectus relates to the sale of 243,060 shares of our common stock that may be offered and resold from time to time by the selling stockholders identified in this prospectus for their own account, including 234,244 shares issuable upon exercise of options. It is anticipated that the selling stockholders will offer shares for sale at prevailing prices on The NASDAQ Capital Market on the date of sale. We will receive no part of the proceeds from sales made under this reoffer prospectus. The selling stockholders will bear all sales commissions and similar expenses. Any other expenses incurred by us in connection with the registration and offering and not borne by the selling stockholders will be borne by us.

The shares of common stock have been or will be issued pursuant to awards granted under the Cleveland BioLabs, Inc. Equity Incentive Plan and the Cleveland BioLabs, Inc. 2013 Employee Stock Purchase Plan. This reoffer prospectus has been prepared for the purposes of registering the shares under the Securities Act of 1933, as amended (the "Securities Act") to allow for future sales by selling stockholders on a continuous or delayed basis to the public without restriction.

The selling stockholders and any brokers executing selling orders on their behalf may be deemed to be "underwriters" within the meaning of the Securities Act, in which event commissions received by such brokers may be deemed to be underwriting commissions under the Securities Act.

Our common stock is listed on the NASDAQ Capital Market under the symbol "CBLI". The last reported sale price of our common stock on the NASDAQ Capital Market on April 23, 2015, was \$3.30 per share.

Investing in our common stock involves risks. See "Risk Factors" on page 9 of this reoffer prospectus.

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

The date of this prospectus is April 24, 2015.

4



**TABLE OF CONTENTS**

	Page
Prospectus Summary	6
Risk Factors	9
Cautionary Note Regarding Forward Looking Statements	10
Use of Proceeds	10
Selling Stockholders	11
Plan of Distribution	12
Legal Matters	14
Experts	14
Incorporation of Certain Documents by Reference	14
Disclosure of Commission Position on Indemnification For Securities Act Liabilities	14
Available Information to You	16

NO PERSON HAS BEEN AUTHORIZED TO GIVE ANY INFORMATION OR TO MAKE ANY REPRESENTATIONS, OTHER THAN THOSE CONTAINED IN THIS PROSPECTUS, IN CONNECTION WITH THE OFFERING MADE HEREBY, AND, IF GIVEN OR MADE, SUCH INFORMATION OR REPRESENTATION MUST NOT BE RELIED UPON AS HAVING BEEN AUTHORIZED BY THE COMPANY OR ANY OTHER PERSON. NEITHER THE DELIVERY OF THIS PROSPECTUS NOR ANY SALE MADE HEREUNDER SHALL UNDER ANY CIRCUMSTANCES CREATE ANY IMPLICATION THAT THERE HAS BEEN NO CHANGE IN THE AFFAIRS OF THE COMPANY SINCE THE DATE HEREOF. THIS PROSPECTUS DOES NOT CONSTITUTE AN OFFER TO SELL OR A SOLICITATION OF AN OFFER TO BUY ANY SECURITIES OFFERED HEREBY BY ANYONE IN ANY JURISDICTION IN WHICH SUCH OFFER OR SOLICITATION IS NOT AUTHORIZED OR IN WHICH THE PERSON MAKING SUCH OFFER OR SOLICITATION IS NOT QUALIFIED TO DO SO OR TO ANY PERSON TO WHOM IT IS UNLAWFUL TO MAKE SUCH OFFER OR SOLICITATION.

**PROSPECTUS SUMMARY**

This summary highlights information contained elsewhere in this prospectus. You should read the entire prospectus carefully, including the section entitled “Risk Factors” before deciding to invest in our common stock. In this prospectus, the “Company,” “we,” “us” and “our” refer to Cleveland BioLabs, Inc. together with its consolidated subsidiary BioLabs 612, LLC, our consolidated joint venture, Panacela Labs, Inc. and our unconsolidated joint venture, Incuron, LLC.

**The Company**

We are an innovative biopharmaceutical company seeking to develop first-in-class pharmaceuticals designed to address diseases with significant unmet medical need. We combine our proven scientific expertise and our depth of knowledge about our products’ mechanisms of action into a passion for developing drugs to save lives. Our programs are focused on the implementation of novel pharmacological approaches to control cell death. Our proprietary drug candidates act via unique mechanisms that are designed to kill cancer and protect healthy cells. We conduct business in the United States and the Russian Federation. CBLI and our joint ventures, Incuron, LLC, or Incuron, and Panacela Labs, Inc., or Panacela, each have worldwide development and commercialization rights to product candidates in development, subject to certain financial obligations to our current licensors. CBLI’s most advanced product candidate is entolimod, which we are developing as a radiation countermeasure and an immunotherapy for oncology and other indications. Our primary product development programs and their respective development stages are illustrated below:

<b>PRODUCT</b> <i>Indication</i>	DISCOVERY PRECLINICAL	PIVOTAL ANIMAL STUDIES	HUMAN SAFETY / DOSE CONVERSION
-------------------------------------	-----------------------	------------------------------	---

**ENTOLIMOD**  
*Acute Radiation Syndrome*

<b>PRODUCT</b> <i>Indication</i>	DISCOVERY PRECLINICAL	PHASE I	PHASE II	PHASE III
-------------------------------------	-----------------------	------------	-------------	--------------

**ENTOLIMOD-Oncology**  
*Advanced Solid Tumors*

**CBLB612**  
*HSC Mobilization*

**MOBILAN**  
*Prostate Cancer*

**CBL0137**  
*Advanced Solid Tumors*

(1) CBL0137 is in development by Incuron.

(2) Mobilan is in development by Panacela.

**Entolimod** is a Toll-like receptor 5, or TLR5, agonist, which we are developing as a radiation countermeasure for prevention of death from Acute Radiation Syndrome, or ARS, and as an oncology drug. We believe that entolimod is the most efficacious radiation countermeasure currently in development. Following is a summary of the clinical development of entolimod to date and regulatory status:

Entolimod is being developed under the U.S. Food & Drug Administration's, or FDA's, Animal Efficacy Rule, or the Animal Rule, for the indication of reducing the risk of death following exposure to potentially lethal irradiation occurring as a result of a radiation disaster. If approved, we anticipate that entolimod will be administered within 25 hours following radiation exposure. We have completed two dose escalation clinical studies designed to evaluate the safety, pharmacokinetics and pharmacodynamics in a total of 150 healthy volunteers. Administration of entolimod was not associated with irreversible harm at any of the doses evaluated in these two studies. We have completed a Good Laboratory Practices, or GLP, randomized, blinded, placebo-controlled, pivotal study designed to evaluate the dose- dependent effect of entolimod on survival and biomarker induction in 179 non-human primates exposed to 7.2 Gy total body irradiation when entolimod or placebo were administered at 25 hours after radiation exposure. We have completed a GLP, randomized, open-label, placebo-controlled, pivotal study designed to evaluate the dose- dependent effect of entolimod on biomarker induction in 160 non-irradiated non-human primates. We met with the FDA in July 2014 to present our human dose-conversion and to discuss our intent to submit a pre-Emergency Use Authorization, or pre-EUA. The FDA confirmed that our existing efficacy and safety data and animal-to- human dose conversion are sufficient to proceed with a pre-EUA submission and agreed to accept a pre-EUA submission for review. We are currently preparing the pre-EUA dossier, which we anticipate filing in the first half of 2015. If the FDA authorizes the application, then Federal agencies are free to procure drug product to stockpile and distribute in the event of an emergency, i.e. prior to the drug being formally approved by FDA under a Biologics License Application, or BLA.

In January 2015, we announced that we had received notice that our proposal application to support further development of entolimod as a medical radiation countermeasure was recommended for funding subject to negotiations by the Department of Defense, or DoD, office of Congressionally Directed Medical Research Programs, or CDMRP. The proposal application aims to conduct several pivotal animal efficacy studies required by the FDA for submission of a BLA. Additionally, in April 2015, we announced that we had received notice that another of our proposal applications to support further development of entolimod as a medical radiation countermeasure was recommended for funding subject to negotiations by the DoD, office of CDMRP. That proposal application aims to conduct an additional clinical study to support submission of a BLA. The Company's receipt of each of these awards is subject to successful negotiations and availability of funds

Additionally, we completed enrollment in a Phase 1 open-label, dose-escalation trial of entolimod in patients with advanced cancer in the United States and began dosing in a small expansion study in the Russian Federation, which is enrolling additional patients at the highest doses achieved in the US study. Both studies include evaluation of immune cell response to administrations of entolimod. Preliminary evaluations of the completed study in the United States indicate that the tolerability profile in patients with advanced cancer was similar to that observed in two previously conducted studies in 150 healthy volunteers. Initial assessments of immunological response were consistent with TLR5 activation. Early analyses indicate that stable disease was observed in several patients with heavily pretreated cancers.

**CBLB612** is a proprietary compound based upon a natural activator of another tissue-specific component of the innate immune system, the TLR2/TLR6 heterodimeric receptor. CBLB612 is a pharmacologically optimized synthetic molecule that structurally mimics naturally occurring lipopeptides of Mycoplasma (a genus of parasitic bacteria) and activates NF- $\kappa$ B pro-survival and immunoregulatory signaling pathways via specific binding to TLR2 on a subset of body tissues and cell types that express this receptor. Preclinical studies have shown that the efficacy of CBLB612 exceeds that of granulocyte colony-stimulating factor, or G-CSF (Amgen's Neupogen®), the market-leading drug used for stimulation of white blood cell regeneration. CBLB612's hematopoietic stem cell, or HSC, stimulatory activity outweighed that of G-CSF when the drugs were administered either as monotherapies, in either mice or non-human primates, or in combination with Plerixafor (Sanofi's Mozobil®, a chemokine receptor antagonist approved by the FDA as an HSC mobilizer). However, the highest degree of HSC mobilization was observed when CBLB612 was added to that combination. The strong synergistic effect of this triple drug combination provides further support for development of CBLB612 as a valuable stem cell mobilizing agent. In October 2014, we initiated a Phase 1, single-center, blind, placebo-controlled, single ascending dose study in the Russian Federation to evaluate the safety and tolerability of CBLB612 in healthy volunteers and measure response of various HP stem and progenitor cell types in order to gain a preliminary estimate of the drug's HSC stimulatory efficacy under a 139 million ruble matching funds development contract that we received in July 2012 from MPT. We announced that we had completed dosing in this study in March 2015. We licensed CBLB612 to Zhejiang Hisun Pharmaceutical Co., Ltd. for the territories of China, Taiwan, Hong Kong and Macau. We have rest-of-world development and commercialization rights to CBLB612.

**CBL0137** is the lead product candidate of our unconsolidated joint venture Incuron. CBL0137 is a small molecule with a multi-targeted mechanism of action that may be broadly useful for the treatment of many different types of cancer. CBL0137 may offer greater efficacy and substantially lower risk for the development of drug resistance than conventional chemotherapeutic agents. CBL0137 inhibits Nuclear Factor kappa-B, or NF- $\kappa$ B, Heat Shock Factor Protein-1, or HSF-1, and Hypoxia-inducible factor 1-alpha, or HIF1 alpha; these are transcription factors that are important for the viability of many types of tumors. The drug also activates tumor suppressor protein p53 by modulating intracellular localization and activity of chromatin remodeling complex Facilitates Chromatin Transcription, or FACT. CBL0137 has been shown to be efficacious in pre-clinical models of colon, lung, breast, renal, pancreatic, head and neck and prostate cancers; melanoma; glioblastoma; and neuroblastoma. It has also been shown to be efficacious in pre-clinical models of hematological cancers, including lymphoma, leukemia and multiple myeloma.

In the Russian Federation, Incuron is currently enrolling patients with advanced, resistant solid tumors to a Phase 1, multi-center, single-agent, dose-escalation study evaluating the oral administration of CBL0137. In the United States, Incuron is also currently enrolling patients with advanced resistant solid tumors to a Phase 1, multi-center, single-agent, dose-escalation study evaluating the intravenous administration of CBL0137. These studies are designed to investigate the safety, pharmacokinetics, pharmacodynamics, and antitumor activity of CBL0137. Incuron is conducting these parallel evaluations of oral and intravenous routes of administration and continuous low-dose versus interrupted high-dose schedules to reduce the company's developmental risk by fully characterizing the clinical pharmacology of CBL0137. The design of a new Phase 1 dose-escalation and expansion study of CBL0137 in hematological malignancies was reviewed with the FDA in December 2014. Incuron is planning to initiate a multicenter study of CBL0137 in patients with hematological malignancies in 2015. This clinical trial is intended to assess the safety, pharmacology, and anticancer activity of CBL0137 in several types of hematological cancers.

In January 2015, updates on clinical progress with Curaxin CBL0137 were announced. A formal interim analysis of the 19 patients enrolled in the first six cohorts of the ongoing oral administration study indicated that the study medication was well tolerated at all investigated dose levels. The observation of drug exposure in plasma documented high oral bioavailability (typically estimated to be  $\geq 50\%$ ). To date, no dose-limiting toxicities have been observed with either oral or intravenous administration through the highest CBL0137 dose levels tested. Heavily pretreated patients with advanced cancers of the esophagus, colon, breast, cervix, and prostate have had stable disease for periods ranging from 4 to 6 months. Peripheral blood mononuclear cells, or PBMCs, from evaluable blood samples have shown pharmacodynamic effects consistent with the expected mechanism of action of CBL0137.

Incuron holds worldwide development and commercialization rights to CBL0137. As of December 31, 2014, BioProcess Capital Ventures, or BCV, owned 53.04% of Incuron and we owned 46.96% and we deconsolidated Incuron on November 25, 2014 as we no longer maintained a controlling equity interest, and commenced accounting for our investment in Incuron using the equity method.

**Mobilan** is the lead product candidate of our consolidated joint venture Panacela. Mobilan is a nanoparticle-formulated recombinant non-replicating adenovirus that directs expression of TLR5 and its agonistic ligand, flagellin.

In pre-clinical studies, delivery of Mobilan to tumor cells results in constitutive autocrine TLR5 signaling and strong activation of the innate immune system with subsequent development of adaptive anti-tumor immune responses. Mobilan is in the pre-clinical stage of development as a universal anti-cancer therapy. In November 2014, Panacela filed an IND in the Russian Federation under a 149 million ruble matching funds development contract that it received in October 2013 from MPT. Panacela holds worldwide development and commercialization rights to Mobilan. As of December 31, 2014, we owned 57.78% of Panacela.

## **Our Partners**

In December 2009, we entered into our Incuron joint venture with BioProcess Capital Partners, or BCP, to develop Curaxin compounds for treatment of oncological diseases. According to the terms of the agreement, we transferred rights in the Curaxin molecules to a new joint venture company, Incuron, in which BCP agreed to cause their affiliated fund, BCV, to contribute an aggregate of 549,497,000 Russian rubles (approximately \$16.9 million) to support development of the compounds. As of September 30, 2014, Incuron had received all committed funding. On November 25, 2014, we transferred 3.05% of the Company's participation interest in Incuron to BCV. The transfer of 3.05% of our participation interest was made pursuant to the Participation Agreement dated December 9, 2009, as amended by the First and Third Amendments to Participation Agreement dated April 13, 2010 and June 17, 2014, respectively, that governs the joint ownership of Incuron by the Company and BCV. As described in the Form 8-K filed by the Company on December 2, 2014, as a result of the transfer of 3.05% of our participation interests to BCV, the Company's participation interest in Incuron decreased to 46.96%, BCV's participation interest increased to 53.04%.

In October 2011, we entered into our Panacela joint venture with Rusnano to carry out a complete cycle of development and commercialization in the Russian Federation for the treatment of oncological, infectious or other diseases. We invested \$3.0 million in Panacela preferred shares and warrants, and, together with certain third-party owners, assigned and/or provided exclusive licenses, as applicable, to Panacela to provide Panacela with worldwide development and commercialization rights to five preclinical product candidates in exchange for Panacela common shares. Rusnano invested \$9.0 million in Panacela preferred shares and warrants. In 2013, Rusnano loaned Panacela \$1.5 million through a convertible term loan, or the Panacela Loan, and revised their original investment agreement to remove the predetermined development milestones and timelines for further investment and provide that Rusnano may invest an additional \$15.5 million at their option. As of December 31, 2014, we had an ownership stake of 57.78% in Panacela.

Additionally, we leverage close development relationships with Roswell Park Cancer Institute and The Cleveland Clinic. Together, our team of legal entities, financial partners and other collaborators engage in the collective development efforts necessary to advance all of our product candidates towards marketing approval and commercialization.

### **Corporate Information**

We were incorporated in Delaware on June 5, 2003. We conduct operations through several subsidiaries, including our wholly-owned subsidiary, BioLab 612, LLC, our consolidated joint venture Panacela Labs, Inc. and our unconsolidated joint venture, Incuron, LLC.

Our principal executive offices are located at 73 High Street, Buffalo, New York 14203. Our telephone number is (716) 849-6810. Our website address is [www.cbiolabs.com](http://www.cbiolabs.com). We have included our website address as an inactive textual reference only. The information contained on, or that can be accessed through, our website is not a part of this prospectus.

### **About This Offering**

This offering relates to the resale by the selling stockholders of up to 243,060 shares of common stock. The selling stockholders have or will acquire such shares pursuant to grants made pursuant to the Cleveland BioLabs, Inc. Equity Incentive Plan and the Cleveland BioLabs, Inc. 2013 Employee Stock Purchase Plan.

### **RISK FACTORS**



Investing in our common stock involves a high degree of risk. Before making an investment decision, you should consider carefully the risks, uncertainties and other factors described in our most recent Annual Report on Form 10-K, as supplemented and updated by subsequent quarterly reports on Form 10-Q and current reports on Form 8-K that we have filed or will file with the SEC, which are incorporated by reference into this prospectus.

Our business, affairs, prospects, assets, financial condition, results of operations and cash flows could be materially and adversely affected by these risks. For more information about our SEC filings, please see “Additional Information Available to You”.

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

This prospectus and the documents incorporated by reference herein contain forward-looking statements within the meaning of Section 27A of the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, that involve substantial risks and uncertainties. All statements, other than statements of historical fact, including statements regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans and objectives of management, are forward-looking statements. The words “anticipate,” “believe,” “continue,” “should,” “estimate,” “expect,” “intend,” “may,” “plan,” “project,” “will,” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included and incorporated by reference in this prospectus that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. See the section entitled “Risk Factors” herein for more information. You should consider these factors and other cautionary statements made in this prospectus and in the documents we incorporate by reference as being applicable to all related forward-looking statements wherever they appear in the prospectus and in the documents incorporated by reference. Unless specifically indicated, our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make. We do not assume any obligation to update any forward-looking statements.

## **USE OF PROCEEDS**

We will receive no proceeds from the sale of shares of common stock offered by the selling stockholders.

**SELLING STOCKHOLDERS**

This prospectus relates to the offering by the selling stockholders of up to 243,060 shares of common stock.

The following table sets forth, based on information provided to us by the selling stockholders or known to us, the name of each selling stockholder, the nature of any position, office or other material relationship, if any, which the selling stockholder has had, within the past three years, with us or with any of our predecessors or affiliates, and the number of shares of our common stock beneficially owned by the selling stockholder before this offering. The number of shares owned are those beneficially owned, as determined under the rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. Under these rules, beneficial ownership includes any shares of common stock as to which a person has sole or shared voting power or investment power and any shares of common stock which the person has the right to acquire within 60 days through the exercise of any option, warrant or right, through conversion of any security or pursuant to the automatic termination of a power of attorney or revocation of a trust, discretionary account or similar arrangement. None of the selling stockholders is a broker-dealer or an affiliate of a broker-dealer. Percentage of ownership is based on 3,435,354 shares of common stock outstanding on March 31, 2015.

We have assumed all shares of common stock reflected on the table will be sold from time to time in the offering covered by this prospectus. Because the selling stockholders may offer all or any portions of the shares of common stock listed in the table below, no estimate can be given as to the amount of those shares of common stock covered by this prospectus that will be held by the selling stockholders upon the termination of the offering.

Selling Stockholder	Number of Shares Beneficially Owned Before Offering	Number of Shares Offered	Number of Shares Beneficially Owned After Offering	Percentage of Shares Beneficially Owned After Offering
James J. Antal <sup>(1)</sup>	16,513	31,534 <sup>(5)</sup>	979	*
Richard S. McGowan, Esq. <sup>(1)</sup>	16,465	18,500 <sup>(6)</sup>	14,465	*
Anthony J. Principi, J.D. <sup>(1)</sup>	6,623	22,873 <sup>(7)</sup>	0	-
Randy S. Saluck, J.D., MBA <sup>(1)</sup>	16,116	20,390 <sup>(7)</sup>	11,976	*
Yakov Kogan, Ph.D., MBA <sup>(2)</sup>	77,529	49,637 <sup>(8)</sup>	33,122	*
Andrei Gudkov, Ph.D., D. Sci. <sup>(3)</sup>	113,901	42,874 <sup>(9)</sup>	75,230	2.2 %
C. Neil Lyons, CPA <sup>(4)</sup>	21,951	25,808 <sup>(10)</sup>	0	-
Elena Kasimova <sup>(1)</sup>	250	16,750 <sup>(6)</sup>	0	-
Leah Brownlee <sup>(11)</sup>	14,694	14,694 <sup>(12)</sup>	0	-

\* less than 1%.

- (1) The selling stockholder is a director of the Company.
- (2) The selling stockholder is chief executive officer and a director of the Company.
- (3) The selling stockholder is chief scientific officer and a director of the Company.
- (4) The selling stockholder is chief financial officer of the Company.
- (5) Includes 30,750 shares issuable upon exercise of options.
- (6) Represents shares issuable upon exercise of options.
- (7) Includes 20,250 shares issuable upon exercise of options.
- (8) Includes 48,262 shares issuable upon exercise of options.
- (9) Includes 42,235 shares issuable upon exercise of options.
- (10) Includes 24,795 shares issuable upon exercise of options.
- (11) The selling stockholder is executive vice president and corporate secretary of the Company and the wife of Yakov Kogan, the Company's chief executive officer.
- (12) Includes 12,452 shares issuable upon exercise of options.

## **PLAN OF DISTRIBUTION**

### **Timing of Sales**

The selling stockholders may offer and sell the shares covered by this prospectus at various times. The selling stockholders will act independently of our company in making decisions with respect to the timing, manner and size of each sale.

To our knowledge, no selling stockholder has any agreement or understanding, directly or indirectly, with any person to resell the shares of common stock covered by this prospectus.

### **Offering Price**

The sales price offered by the selling stockholders to the public may be:

1. the market price prevailing at the time of sale;
2. a price related to such prevailing market price; or
3. such other price as the selling stockholders determine from time to time.

### **Manner of Sale**

The shares of common stock may be sold by means of one or more of the following methods:

1. a block trade in which the broker-dealer so engaged will attempt to sell the shares of common stock as agent, but may position and resell a portion of the block as principal to facilitate the transaction;

2. purchases by a broker-dealer as principal and resale by that broker-dealer for its account pursuant to this prospectus;
3. ordinary brokerage transactions in which the broker solicits purchasers;
4. through options, swaps or derivatives;
5. in transactions to cover short sales;
6. privately negotiated transactions; or
7. in a combination of any of the above methods.

The selling stockholders may sell their shares of common stock directly to purchasers or may use brokers, dealers, underwriters or agents to sell their shares of common stock. Brokers or dealers engaged by the selling stockholders may arrange for other brokers or dealers to participate. Brokers or dealers may receive commissions, discounts or concessions from the selling stockholders, or, if any such broker-dealer acts as agent for the purchaser of shares of common stock, from the purchaser in amounts to be negotiated immediately prior to the sale. The compensation received by brokers or dealers may, but is not expected to, exceed that which is customary for the types of transactions involved.

Broker-dealers may agree with a selling stockholder to sell a specified number of shares of common stock at a stipulated price per common share, and, to the extent the broker-dealer is unable to do so acting as agent for a selling stockholder, to purchase as principal any unsold shares of common stock at the price required to fulfill the broker-dealer commitment to the selling stockholder.

Broker-dealers who acquire shares of common stock as principal may thereafter resell the shares of common stock from time to time in transactions, which may involve block transactions and sales to and through other broker-dealers, including transactions of the nature described above, on The NASDAQ Capital Market or otherwise at prices and on terms then prevailing at the time of sale, at prices then related to the then-current market price or in negotiated transactions. In connection with resales of the shares of common stock, broker-dealers may pay to or receive from the purchasers of shares commissions as described above.

If the selling stockholders enter into arrangements with brokers or dealers, as described above, we are obligated to file a post-effective amendment to this registration statement disclosing such arrangements, including the names of any broker-dealers acting as underwriters.

The selling stockholders and any broker-dealers or agents that participate with the selling stockholders in the sale of the shares of common stock may be deemed to be “underwriters” within the meaning of the Securities Act. In that event, any commissions received by broker-dealers or agents and any profit on the resale of the shares of common stock purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act.

#### **Sales Pursuant to Rule 144**

Any shares of common stock covered by this prospectus which qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than pursuant to this prospectus.

#### **Regulation M**

The selling stockholders must comply with the requirements of the Securities Act and the Exchange Act in the offer and sale of the common stock. In particular we will advise the selling stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares of common stock in the market and to the activities of the selling stockholders and their affiliates. Regulation M under the Exchange Act prohibits, with certain exceptions, participants in a distribution from bidding for, or purchasing for an account in which the participant has a beneficial interest, any of the securities that are the subject of the distribution.

Accordingly, during such times as a selling stockholder may be deemed to be engaged in a distribution of the common stock, and therefore be considered to be an underwriter, the selling stockholder must comply with applicable law and, among other things:

1. may not engage in any stabilization activities in connection with our common stock;
2. may not cover short sales by purchasing shares while the distribution is taking place; and
3. may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities other than as permitted under the Exchange Act.

In addition, we will make copies of this prospectus available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act.

#### **State Securities Laws**

Under the securities laws of some states, the shares of common stock may be sold in such states only through registered or licensed brokers or dealers. In addition, in some states the shares of common stock may not be sold unless the shares have been registered or qualified for sale in the state or an exemption from registration or qualification is available and is complied with.



## **Expenses of Registration**

We are bearing all costs relating to the registration of the common stock. The selling stockholders, however, will pay any commissions or other fees payable to brokers or dealers in connection with any sale of the common stock.

## **LEGAL MATTERS**

The validity of the common stock has been passed upon by Sichenzia Ross Friedman FERENCE LLP, New York, New York.

## **EXPERTS**

The consolidated financial statements of Cleveland BioLabs, Inc. as of December 31, 2014 and 2013 and for each of the years in the three-year period ended December 31, 2014 appearing in Cleveland BioLabs, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2014, have been audited by Meaden & Moore, Ltd., an independent registered public accounting firm, as set forth in its report thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

## **INCORPORATION OF CERTAIN DOCUMENTS by Reference**

The Securities and Exchange Commission, or SEC, allows us to incorporate by reference certain of our publicly filed documents into this prospectus, which means that such information is considered part of this prospectus. Information that we file with the SEC subsequent to the date of this prospectus will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC under all documents subsequently filed by us pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act until the selling stockholders have sold all of the shares offered hereby or such shares have been deregistered.

our Annual Report on Form 10-K for the fiscal year ended December 31, 2014, filed with the SEC on February 27, 2015;

our Current Reports on Form 8-K filed with the SEC on January 13, 2015, January 27, 2015, January 28, 2015, February 4, 2015, February 9, 2015, February 20, 2015, March 13, 2015 and April 17, 2015;

our Definitive Proxy Statement on Schedule 14A filed with the SEC on March 5, 2015; and

the description of our common stock, which is contained in the registration statement on Form 8-A filed with the SEC on July 20, 2006 (File No. 001-32954), including any amendments or reports filed for the purpose of updating that description.

Notwithstanding the foregoing, information furnished under Items 2.02 and 7.01 of any Current Report on Form 8-K, including the related exhibits, is not incorporated by reference in this prospectus.

## **Disclosure Of Commission Position On Indemnification**

### **For Securities Act Liabilities**

The Company's certificate of incorporation and bylaws provide that each person who was or is made a party or is threatened to be made a party to or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he or she is or was one of the Company's directors or officers or is or was serving at the Company's request as a director, officer, or trustee of another corporation, or of a partnership, joint venture, trust or other enterprise, whether the basis of such proceeding is alleged action in an official capacity as a director, officer or trustee or in any other capacity while serving as a director, officer or trustee, shall be indemnified and held harmless by us to the fullest extent authorized by the DGCL against all expense, liability and loss (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action.

Section 145 of the DGCL permits a corporation to indemnify any director or officer of the corporation against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with any action, suit or proceeding brought by reason of the fact that such person is or was a director or officer of the corporation, if such person acted in good faith and in a manner that he or she reasonably believed to be in, or not opposed to, the best interests of the corporation, and, with respect to any criminal action or proceeding, if he or she had no reason to believe his or her conduct was unlawful. In a derivative action, (*i.e.* , one brought by or on behalf of the corporation), indemnification may be provided only for expenses actually and reasonably incurred by any director or officer in connection with the defense or settlement of such an action or suit if such person acted in good faith and in a manner that he or she reasonably believed to be in, or not opposed to, the best interests of the corporation, except that no indemnification shall be provided if such person shall have been adjudged to be liable to the corporation, unless and only to the extent that the court in which the action or suit was brought shall determine that the defendant is fairly and reasonably entitled to indemnity for such expenses despite such adjudication of liability.

Pursuant to Section 102(b)(7) of the DGCL, Article ELEVENTH of the Company's certificate of incorporation eliminates the liability of a director to the Registrant's stockholders for monetary damages for such a breach of fiduciary duty as a director, except for liabilities arising

from any breach of the director's duty of loyalty to the Registrant or the Registrant's stockholders;

from acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;

under Section 174 of the DGCL; and

from any transaction from which the director derived an improper personal benefit.

The Company has entered into an agreement to indemnify one of the Registrant's directors. This agreement, among other things, provide that the Company will indemnify the director to the fullest extent authorized or permitted by the provisions of the Company's certificate of incorporation, bylaws or law for claims arising in his capacity as a director of the Company. The indemnification agreements also establish the procedures that will apply in the event the director makes a claim for indemnification.

The Company maintains a general liability insurance policy which covers certain liabilities of directors and officers of the Registrant arising out of claims based on acts or omissions in their capacities as directors or officers.

The foregoing discussion of our certificate of incorporation, bylaws, indemnification agreements, and Delaware law is not intended to be exhaustive and is qualified in its entirety by such certificate of incorporation, bylaws,

indemnification agreements, or law.

15

### **Additional Information Available to You**

This prospectus is part of a Registration Statement on Form S-8 that we filed with the SEC. Certain information in the Registration Statement has been omitted from this prospectus in accordance with the rules of the SEC. We file annual, quarterly and special reports, proxy statements and other information with the SEC. You can inspect and copy the Registration Statement as well as reports, proxy statements and other information we have filed with the SEC at the public reference room maintained by the SEC at 100 F Street N.E. Washington, D.C. 20549, You can obtain copies from the public reference room of the SEC at 100 F Street N.E. Washington, D.C. 20549, upon payment of certain fees. You can call the SEC at 1-800-732-0330 for further information about the public reference room. We are also required to file electronic versions of these documents with the SEC, which may be accessed through the SEC's World Wide Web site at <http://www.sec.gov>. No dealer, salesperson or other person is authorized to give any information or to make any representations other than those contained in this prospectus, and, if given or made, such information or representations must not be relied upon as having been authorized by us. This prospectus does not constitute an offer to buy any security other than the securities offered by this prospectus, or an offer to sell or a solicitation of an offer to buy any securities by any person in any jurisdiction where such offer or solicitation is not authorized or is unlawful. Neither delivery of this prospectus nor any sale hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of our company since the date hereof.

## **PART II**

### **INFORMATION REQUIRED IN THE REGISTRATION STATEMENT**

#### **Item 3. Incorporation of Documents by Reference.**

The Company hereby incorporates by reference into this Registration Statement the documents listed below. In addition, all documents subsequently filed pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act prior to the filing of a post-effective amendment which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference into this Registration Statement and to be a part hereof from the date of filing of such documents.

our Annual Report on Form 10-K for the fiscal year ended December 31, 2014, filed with the SEC on February 27, 2015;

our Current Reports on Form 8-K filed with the SEC on January 13, 2015, January 27, 2015, January 28, 2015, February 4, 2015, February 9, 2015, February 20, 2015, March 13, 2015 and April 17, 2015;

our Definitive Proxy Statement on Schedule 14A filed with the SEC on March 5, 2015; and

the description of our common stock, which is contained in the registration statement on Form 8-A filed with the SEC on July 20, 2006 (File No. 001-32954), including any amendments or reports filed for the purpose of updating that description.

Notwithstanding the foregoing, information furnished under Items 2.02 and 7.01 of any Current Report on Form 8-K, including the related exhibits, is not incorporated by reference in this Registration Statement.

#### **Item 4. Description of Securities.**

Not applicable.

#### **Item 5. Interests of Named Experts and Counsel.**

None.

17

**Item 6. Indemnification of Directors and Officers.**

The Company's certificate of incorporation and bylaws provide that each person who was or is made a party or is threatened to be made a party to or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he or she is or was one of the Company's directors or officers or is or was serving at the Company's request as a director, officer, or trustee of another corporation, or of a partnership, joint venture, trust or other enterprise, whether the basis of such proceeding is alleged action in an official capacity as a director, officer or trustee or in any other capacity while serving as a director, officer or trustee, shall be indemnified and held harmless by us to the fullest extent authorized by the DGCL against all expense, liability and loss (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action.

Section 145 of the DGCL permits a corporation to indemnify any director or officer of the corporation against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with any action, suit or proceeding brought by reason of the fact that such person is or was a director or officer of the corporation, if such person acted in good faith and in a manner that he or she reasonably believed to be in, or not opposed to, the best interests of the corporation, and, with respect to any criminal action or proceeding, if he or she had no reason to believe his or her conduct was unlawful. In a derivative action, (*i.e.*, one brought by or on behalf of the corporation), indemnification may be provided only for expenses actually and reasonably incurred by any director or officer in connection with the defense or settlement of such an action or suit if such person acted in good faith and in a manner that he or she reasonably believed to be in, or not opposed to, the best interests of the corporation, except that no indemnification shall be provided if such person shall have been adjudged to be liable to the corporation, unless and only to the extent that the court in which the action or suit was brought shall determine that the defendant is fairly and reasonably entitled to indemnity for such expenses despite such adjudication of liability.

Pursuant to Section 102(b)(7) of the DGCL, Article ELEVENTH of the Company's certificate of incorporation eliminates the liability of a director to the Registrant's stockholders for monetary damages for such a breach of fiduciary duty as a director, except for liabilities arising

from any breach of the director's duty of loyalty to the Registrant or the Registrant's stockholders;

from acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;

under Section 174 of the DGCL; and

from any transaction from which the director derived an improper personal benefit.



The Company has entered into an agreement to indemnify one of the Registrant's directors. This agreement, among other things, provide that the Company will indemnify the director to the fullest extent authorized or permitted by the provisions of the Company's certificate of incorporation, bylaws or law for claims arising in his capacity as a director of the Company. The indemnification agreements also establish the procedures that will apply in the event the director makes a claim for indemnification.

The Company maintains a general liability insurance policy which covers certain liabilities of directors and officers of the Registrant arising out of claims based on acts or omissions in their capacities as directors or officers.

The foregoing discussion of our certificate of incorporation, bylaws, indemnification agreements, and Delaware law is not intended to be exhaustive and is qualified in its entirety by such certificate of incorporation, bylaws, indemnification agreements, or law.

**Item 7. Exemption from Registration Claimed.**

Not applicable.

**Item 8. Exhibits.**

**Exhibit  
Number**

**Description**

5.1	Opinion of Sichenzia Ross Friedman Ference LLP
10.1	Cleveland BioLabs, Inc. Equity Incentive Plan (incorporated by reference to Definitive Proxy Statement on Schedule 14A filed with the SEC on March 5, 2015)
10.2	First Amendment to Cleveland BioLabs, Inc. Equity Incentive Plan (incorporated by reference to Definitive Proxy Statement on Schedule 14A filed with the SEC on March 5, 2015)
10.3	Third Amendment to Cleveland BioLabs, Inc. Equity Incentive Plan (incorporated by reference to Definitive Proxy Statement on Schedule 14A filed with the SEC on March 5, 2015)
10.4	Cleveland BioLabs, Inc. 2013 Employee Stock Purchase Plan (incorporated by reference to Definitive Proxy Statement on Schedule 14A filed with the SEC on March 5, 2015)
10.5	First Amendment to Cleveland BioLabs, Inc. 2013 Employee Stock Purchase Plan (incorporated by reference to Definitive Proxy Statement on Schedule 14A filed with the SEC on March 5, 2015)
23.1	Consent of Meaden & Moore, Ltd.
23.2	Consent of Sichenzia Ross Friedman Ference LLP (included in Exhibit 5.1)
24.1	Power of Attorney (included on the signature page)

**Item 9. Undertakings.**

The Company hereby undertakes:

(a)(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

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

(ii) To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental

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

To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement; provided, however, that (A) paragraphs (a)(1)(i) and (a)(1)(ii) of this section do not apply if the Registration Statement is on Form S-8 (§239.16b of Regulation S-K), and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Securities and Exchange Commission by the Company pursuant to section 13 or section 15(d) of the Exchange Act (15 U.S.C. 78m or 78o(d)) that are incorporated by reference in the Registration Statement; and (B) paragraphs (a)(1)(i), (a)(1)(ii) (iii) and (a)(1)(iii) do not apply if the Registration Statement is on Form S-3 or Form F-3, and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Securities and Exchange Commission by the Company pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the Registration Statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the Registration Statement; provided further, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the Registration Statement is for an offering of asset-backed securities on Form S-1 or Form S-3, and the information required to be included in a post-effective amendment is provided pursuant to Item 1100(c) of Regulation AB.

That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment (2) shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

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

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

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

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

The Company hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Company's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act that is (b) incorporated by reference in this Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Company pursuant to the foregoing provisions, or otherwise, the Company has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act, and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Company of expenses incurred or paid by a director, officer or controlling person of the Company in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the

Company will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Buffalo, State of New York, on April 24, 2015.

Cleveland BioLabs, Inc.

By: /s/ Yakov Kogan  
Yakov Kogan  
Its: Chief Executive Officer  
(Principal Executive Officer)

By: /s/ C. Neil Lyons  
C. Neil Lyons  
Its: Chief Financial Officer  
(Principal Financial and Accounting Officer)

Each person whose signature appears below constitutes and appoints Yakov Kogan and C. Neil Lyons as his true and lawful attorney in fact and agent, with full powers of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any or all amendments (including post effective amendments) to the Registration Statement, and to file the same, with all exhibits thereto, and all documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, each acting alone, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, each acting alone, or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed below by the following persons in the capacities and on the dates indicated.

/s/ Yakov Kogan  
Yakov Kogan  
Chief Executive Officer and Director  
(principal executive officer) April 24, 2015

/s/ C. Neil Lyons April 24, 2015

