

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933



PRESSURE BIOSCIENCES, INC.

(Exact name of registrant as specified in its charter)

Massachusetts
*(State or other jurisdiction of
incorporation or organization)*

04-2652826
*(I.R.S. Employer
Identification No.)*

**14 Norfolk Avenue
South Easton, Massachusetts 02375
(508) 230-1828**
(Address, including zip code and telephone number, including area code, of registrant's principal executive offices)

**Richard T. Schumacher
President and Chief Executive Officer
Pressure BioSciences, Inc.
14 Norfolk Avenue
South Easton, Massachusetts 02375
(508) 230-1828**
(Name, address, including zip code and telephone number, including area code, of agent for service)

Copies to:
**Steven R. London, Esq.
Pepper Hamilton LLP
15th Floor, Oliver Street Tower
125 High Street
Boston, MA 02110-1817
(617) 204-5107**

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

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check this box:

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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

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 (1)	Proposed Maximum Aggregate Offering Price (2)(3)(4)(5)	Amount of Registration Fee
Common Stock, \$0.01 par value per share		
Preferred Stock, \$0.01 par value per share		
Warrants		
Units		
Series A Junior Participating Preferred Stock Purchase Rights (6)		
Total	\$15,000,000	\$1,741.50

(1) This registration statement also covers (i) preferred stock and common stock of the registrant that may be issued upon the exercise of warrants, and (ii) such indeterminate amount of securities as may be issued in exchange for, or upon the conversion of, the securities registered hereunder. In addition, securities registered hereunder may be sold separately or as units with other securities registered hereunder.

(2) An indeterminate number of the securities is being registered as may at various times be issued at indeterminate prices, with an aggregate offering price not to exceed \$15,000,000 or the equivalent thereof in one or more currencies. Pursuant to Rule 416 under the Securities Act of 1933, as amended, the shares

being registered hereunder include such indeterminate number of shares of common stock and preferred stock as may be issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions.

- (3) Not specified as to each class of securities to be registered pursuant to General Instruction II.D of Form S-3 under the Securities Act of 1933, as amended.
- (4) Estimated solely for the purpose of computing the amount of the registration fee in accordance with Rule 457(o) under the Securities Act of 1933, as amended, and exclusive of accrued interest and dividends, if any.
- (5) Includes consideration to be received by us for registered securities that are issuable upon exercise, conversion or exchange of other registered securities.
- (6) This registration statement also relates to the rights to purchase shares of Series A Junior Participating Preferred Stock of the registrant, which, pursuant to the terms of the registrant's Rights Agreement dated February 27, 2003, as amended, will be attached to all shares of common stock issued until the occurrence of certain events prescribed in the Rights Agreement. The rights will not be exercisable and will be transferred with and only with shares of our common stock until the occurrence of certain events prescribed in the Rights Agreement.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until this registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

SUBJECT TO COMPLETION, DATED SEPTEMBER 13, 2011

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

PROSPECTUS



PRESSURE BIOSCIENCES, INC.
\$15,000,000
COMMON STOCK
SERIES A JUNIOR PARTICIPATING PREFERRED STOCK PURCHASE RIGHTS
PREFERRED STOCK
WARRANTS
UNITS

This prospectus relates to common stock, Series A Junior Participating Preferred Stock Purchase Rights, preferred stock, warrants and units that we may sell from time to time in one or more offerings up to a total public offering price of an aggregate of \$15,000,000 (or its equivalent in foreign or composite currencies) on terms to be determined at the time of sale. We will provide specific terms of these securities in supplements to this prospectus. You should read this prospectus and any supplement carefully before you invest. This prospectus may not be used to offer and sell securities unless accompanied by a prospectus supplement for those securities.

Our common stock is quoted on the NASDAQ Capital Market under the symbol "PBIO." Each prospectus supplement to this prospectus will contain information, where applicable, as to any other quotation on the NASDAQ Capital Market or any listing on a national securities exchange of the securities covered by such prospectus supplement.

These securities may be sold directly by us, through dealers or agents designated from time to time, to or through underwriters or through a combination of these methods. See "Plan of Distribution" in this prospectus. We may also describe the plan of distribution for any particular offering of these securities in any applicable prospectus supplement. If any agents, underwriters or dealers are involved in the sale of any securities in respect of which this prospectus is being delivered, we will disclose their names and the nature of our arrangements with them in a prospectus supplement. The net proceeds we expect to receive from any such sale will also be included in a prospectus supplement.

Investing in our securities involves risks. See "Risk Factors" on page 4 of this prospectus. We may include specific risk factors in an applicable prospectus supplement under the heading "Risk Factors." You should review that section of the prospectus supplement for a discussion of matters that investors in our securities should consider.

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

The date of this prospectus is , 2011.

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You should rely only on the information contained or incorporated by reference in this prospectus and any prospectus supplement. We have not authorized any dealer, salesman or other person to provide you with additional or different information. This prospectus and any prospectus supplement are not an offer to sell or the solicitation of an offer to buy any securities other than the securities to which they relate and are not 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 an offer or solicitation in that jurisdiction. You should not assume that the information in this prospectus or any prospectus supplement or in any document incorporated by reference in this prospectus or any prospectus supplement is accurate as of any date other than the date of the document containing the information.

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3, or Registration Statement, that we filed with the Securities and Exchange Commission, or SEC, using a “shelf” registration process. Under this shelf process, we may sell any combination of the securities described in this prospectus in one or more offerings up to an aggregate public offering price of \$15,000,000 (or its equivalent in foreign or composite currencies). This prospectus provides you with a general description of the securities that we may offer. Each time we use this prospectus to sell securities, we will provide a prospectus supplement that will contain specific information about the securities being offered and 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 and the documents incorporated by reference into this prospectus, together with the additional information described below under “Where You Can Find More Information,” carefully before making an investment decision.

Any statement made in this prospectus or in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in any prospectus supplement or in any other subsequently filed document that is also incorporated or deemed to be incorporated by reference in this prospectus modifies or supersedes that statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus. See “Incorporation of Certain Documents by Reference” in this prospectus.

Unless the context otherwise requires, in this prospectus, “Pressure BioSciences”, the “Company”, “we”, “us”, “our” and similar names refer to Pressure BioSciences, Inc. and its subsidiary.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and we file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy the reports, proxy statements and other information that we file at the SEC’s Public Reference Room at 100 F Street NE, Washington, D.C. 20549 at prescribed rates. Information on the operation of the Public Reference Room may be obtained by calling the SEC at 1-800-SEC-0330. Our filings are also available free of charge at the SEC’s website at <http://www.sec.gov>.

This prospectus is part of the Registration Statement that we filed with the SEC under the Securities Act of 1933, as amended, or the Securities Act. This prospectus does not contain all of the information set forth in the Registration Statement. For more information about us and our securities, you should read the Registration Statement and its exhibits and schedules. Copies of the Registration Statement, including its exhibits, may be inspected without charge at the offices of the SEC or obtained at prescribed rates from the Public Reference Room of the SEC at 100 F Street NE, Washington, D.C. 20549. Copies of the Registration Statement may be obtained without charge at the SEC’s website.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to “incorporate by reference” the information we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and information that we file with the SEC after the date of this prospectus will automatically update and may supersede this information. We are incorporating by reference into this prospectus the documents listed below:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2010 filed on March 31, 2011, as amended by an amendment on Form 10-K/A to the Annual Report on Form 10-K for the fiscal year ended December 31, 2010 filed on May 2, 2011;
- our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2011 filed on August 15, 2011;

- our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2011 filed on May 15, 2011;
- our Current Report on Form 8-K filed on September 9, 2011;
- our Current Report on Form 8-K filed on August 19, 2011;
- our Current Report on Form 8-K filed on August 11, 2011;
- our Current Report on Form 8-K filed on August 9, 2011;
- our Current Report on Form 8-K filed on June 21, 2011;
- our Current Report on Form 8-K filed on June 15, 2011;
- our Current Report on Form 8-K filed on April 29, 2011;
- our Current Report on Form 8-K filed on April 12, 2011;
- the description of our common stock contained in our Registration Statement on Form 8-A (File No. 0-21615) filed with the SEC under Section 12 of the Exchange Act), including any amendments or reports filed for the purpose of updating such description in which there is described the terms, rights and provisions applicable to our common stock;
- the description of our preferred share purchase rights in our registration statement on Form 8-A (File No. 0-21615) filed with the SEC under Section 12 of the Securities Exchange Act of 1934, including any amendment or report filed for the purpose of updating such description;
- all documents that we file under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of the initial filing of the Registration Statement and prior to the effectiveness of the Registration Statement; and
- all documents that we file under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus and before the termination of the final offering of securities under this prospectus.

We do not incorporate by reference any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K in any future filings, unless specifically stated otherwise in such filings. Any statement contained in a document incorporated by reference in this prospectus shall be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus, any prospectus supplement or in any other subsequently filed document which is incorporated by reference modifies or supersedes such statement.

You can obtain copies of any of the documents incorporated by reference in this prospectus from us or, as described above, through the SEC or the SEC's web site at <http://www.sec.gov>. Documents incorporated by reference are available from us, without charge, excluding all exhibits unless specifically incorporated by reference in the documents. You may obtain documents incorporated by reference in this prospectus by writing to us at the following address or by calling us at the telephone number listed below:

Pressure BioSciences, Inc.
14 Norfolk Avenue
South Easton, MA 02375
Attention: Chief Financial Officer
(508) 230-1828

We also maintain a web site at <http://www.pressurebiosciences.com> (which is not intended to be an active hyperlink in this prospectus) through which you can obtain copies of documents that we have filed with the SEC. The contents of that site are not incorporated by reference into or otherwise a part of this prospectus.

FORWARD-LOOKING STATEMENTS

Some of the statements included in this prospectus and any prospectus supplement contain forward-looking statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical facts contained in this prospectus and any prospectus supplement, including statements regarding our plans, objectives, goals, strategies, future events, financial position, capital expenditures, future results, our competitive strengths, our business strategy and the trends in our industry are forward-looking statements. The words “believe,” “may,” “could,” “estimate,” “continue,” “anticipate,” “intend,” “should,” “plan,” “expect,” “appear,” “future,” “likely,” “probably,” “suggest,” “goal,” “potential” and similar expressions, as they relate to us, are intended to identify forward-looking statements.

Forward-looking statements reflect only our current expectations. In any forward-looking statement, where we express an expectation or belief as to future results or events, such expectation or belief is expressed in good faith as of the date of such statement and believed to have a reasonable basis, but there can be no assurance that the statement of expectation or belief will be achieved or accomplished. Our actual results, performance or achievements could differ materially from those expressed in, or implied by, the forward-looking statements due to a number of uncertainties, many of which are unforeseen, including:

- our need for, and our ability to raise, additional equity or debt financing on acceptable terms, if at all;
- our need to take additional cost reduction measures, cease operations or sell our operating assets, if we are unable to obtain sufficient additional financing in the future;
- the alternatives we may seek in light of our financial condition;
- the amount of cash necessary to operate our business;
- the anticipated uses of grant revenue and increased grant revenue in future periods;
- our plans and expectations with respect to our pressure cycling technology (PCT) operations;
- our belief that PCT has achieved significant market acceptance in the mass spectrometry market;
- the expected increase in number of PCT units installed and the increase in revenues from sale of consumable products and extended service contracts;
- the expected development and success of new product offerings;
- the potential applications for PCT in, and the demonstration of proof-of-concept of PCT for, pathogen inactivation, protein purification, control of chemical reactions, immunodiagnostics and formalin fixed paraffin embedded tissue preparation, among others;
- the expected expenses of, and benefits and results from, our research and development efforts;
- the expected benefits and results from our collaboration program, strategic alliances and joint ventures;
- our expectation of obtaining additional research grants from the government in the future;
- our expectations of the results of our development activities funded by government research grants;
- the potential size of the market for biological sample preparation;

- general economic conditions;
- the anticipated future financial performance and business operations of our company;
- our reasons for focusing our resources in the market for genomic, proteomic and small molecule sample preparation;
- the importance of mass spectrometry as a laboratory tool;
- the advantages of PCT over other current technologies as a method of sample extraction and for other applications, including pathogen inactivation, protein purification, control of chemical reactions and immunodiagnosics;
- sample preparation may be an impediment to research and discovery;
- the capabilities and benefits of our PCT sample preparation system and consumable products;
- that other laboratory scientists will achieve results comparable to those reported to date by certain research scientists who have published or presented publicly on PCT; and
- our ability to expand our customer base in sample preparation and for other applications of PCT.

In addition, you should refer to the “Risk Factors” section of this prospectus beginning on page 4 for a discussion of other factors that may cause our actual results to differ materially from those implied by our forward-looking statements. As a result of these factors, we cannot assure you that the forward-looking statements in this prospectus and any prospectus supplement will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, if at all. Accordingly, you should not place undue reliance on these forward-looking statements. All subsequent written and oral forward looking statements attributable to us or the persons acting on our behalf are expressly qualified in their entirety by the applicable cautionary statements. We undertake no obligation to update any of these forward looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law or regulation.

RISK FACTORS

Investing in our securities involves risk. Please see the risk factors under the heading “Risk Factors” in our most recent annual report on Form 10-K, as revised or supplemented by our quarterly reports on Form 10-Q and current reports filed on Form 8-K filed with the SEC since the filing of our most recent annual report on Form 10-K, each of which are on file with the SEC and are incorporated herein by reference. Before making an investment decision, you should carefully consider these risks as well as other information we include or incorporate by reference in this prospectus and any prospectus supplement. The risks and uncertainties we have described are not the only ones facing our company. Additional risks and uncertainties not presently known to us or that we currently deem to be immaterial may also affect our business operations.

ABOUT PRESSURE BIOSCIENCES, INC.

We are focused on solving the challenging problems inherent in biological sample preparation, a crucial laboratory step performed by scientists worldwide working in biological life sciences research. Sample preparation is a term that refers to a wide range of activities that precede most forms of scientific analysis. Sample preparation is often complex, time-consuming, and we believe one of the most error prone steps of scientific research. It is, none-the-less, a ubiquitous laboratory undertaking the requirements of which drive what we believe is a large and growing worldwide market. We have developed and patented a novel, enabling technology platform that can control the sample preparation process. It is based on harnessing the unique properties of high hydrostatic pressure. This

process, called pressure cycling technology ("PCT"), uses alternating cycles of hydrostatic pressure between ambient and ultra-high levels (35,000 psi or greater) to safely, conveniently and reproducibly control the actions of molecules in biological samples (e.g., cells and tissues from human, animal, plant, and microbial sources).

Our pressure cycling technology uses internally developed instrumentation that is capable of cycling pressure between ambient and ultra-high levels at controlled temperatures to rapidly and repeatedly control the interactions of bio-molecules. Our instrument, the Barocycler®, and our internally developed consumables product line, which includes Pressure Used to Lyse Samples for Extraction ("PULSE") Tubes as well as application specific kits (which include consumable products and reagents) together make up the PCT Sample Preparation System ("PCT SPS").

We were incorporated in the Commonwealth of Massachusetts in August 1978 as Boston Biomedica, Inc. In September 2004, we completed the sale of the Boston Biomedica core business units and began to focus exclusively on the development and commercialization of the PCT platform. Following this change in business strategy, we changed our legal name from Boston Biomedica, Inc. to Pressure BioSciences, Inc., or PBI, and commenced operations as Pressure BioSciences in February 2005.

USE OF PROCEEDS

Unless we indicate otherwise in the prospectus supplement for a particular offering, we intend to use the net proceeds of the securities offered by this prospectus to support the commercialization of our current and future products to fund our research and development activities, for general working capital needs, or for other purposes that our board of directors, in its good faith, deems to be in our best interest. We will set forth in the prospectus supplement for a particular offering our intended use for the net proceeds received from the sale of securities in such offering. We may also invest the net proceeds temporarily until we use them for their stated purpose.

GENERAL DESCRIPTION OF SECURITIES WE MAY OFFER

We may offer shares of our common stock and preferred stock, warrants to purchase shares of common stock and preferred stock or units to purchase any of the foregoing securities, with a total public offering price of up to \$15,000,000, from time to time in one or more offerings under this prospectus at prices and on terms to be determined by market conditions at the time of the offering. This prospectus provides you with a general description of the securities that we may offer. In connection with each offering, we will provide a prospectus supplement that will describe the specific amounts, prices and terms of the securities being offered, including, to the extent applicable:

- designation or classification;
- aggregate offering price;
- rates and times of payment of dividends;
- redemption, conversion or exchange terms;
- conversion or exchange prices or rates and any provisions for changes to or adjustments in the conversion or exchange prices or rates and in the securities or other property receivable upon conversion or exchange;
- ranking;
- restrictive covenants;
- voting or other rights; and
- important federal income tax considerations.

The prospectus supplement also may add, update or change information contained in this prospectus or in documents we have incorporated by reference. However, no prospectus supplement will offer a security that is not included in the Registration Statement at the time of its effectiveness or offer a security of a type that is not described in this prospectus.

This prospectus may not be used to consummate a sale of securities unless it is accompanied by a prospectus supplement.

DESCRIPTION OF CAPITAL STOCK

As of September 13, 2011, we were authorized to issue 20,000,000 shares of common stock, \$.01 par value, and 1,000,000 shares of preferred stock, \$.01 par value. Of the 1,000,000 shares of preferred stock, 20,000 shares have been designated as Series A Junior Participating Preferred Stock, 313,960 shares have been designated as Series A Convertible Preferred Stock, 279,256 shares have been designated as Series B Convertible Preferred Stock, and 386,458 shares have been designated as Series C Convertible Preferred Stock. As of September 13, 2011, there were 3,064,066 shares of common stock outstanding, 261,135 shares of Series A Convertible Preferred Stock outstanding, 84,179 shares of Series B Convertible Preferred Stock outstanding and 88,098 shares of Series C Convertible Preferred Stock outstanding. As of September 13, 2011, there were no shares of Series A Junior Participating Preferred Stock outstanding.

The following is qualified in its entirety by reference to our restated articles of organization, as amended, and our amended and restated bylaws, as amended, and by the provisions of applicable law. A copy of our restated articles of organization, as amended, and amended and restated bylaws, as amended, are incorporated by reference as exhibits to our most recent annual report on Form 10-K.

Common Stock

The holders of our common stock are entitled to one vote per share on all matters to be voted on by shareholders and are entitled to receive such dividends, if any, as may be declared from time to time by our board of directors from funds legally available therefor. The holders of our common stock do not have cumulative voting rights in the election of directors. Upon our liquidation or dissolution, subject to the liquidation preferences of the holders of our Series A Convertible Preferred Stock, Series B Convertible Preferred Stock and Series C Convertible Preferred Stock, the holders of our common stock are entitled to receive all assets available for distribution to the shareholders. Shares of our common stock have no preemptive or other subscription rights, and there are no conversion rights or redemption or sinking fund provisions with respect to such shares. Pursuant to that certain Rights Agreement (as defined below under "Shareholder Rights Plan"), a Right (also as defined below) will be issued with each share of our common stock that we issue. See "Shareholder Rights Plan" below.

Preferred Stock

A total of 326 shares of preferred stock have not yet been designated to any class or series. Our board of directors may, without future action of our shareholders, issue any undesignated shares of preferred stock in one or more classes or series and fix the rights and preferences thereof, including the dividend rights, dividend rates, conversion rights, voting rights, terms of redemption (including sinking fund provisions), redemption price or prices, liquidation preferences and the number of shares constituting any class or series, or the designations of such class or series. The voting and other rights of the holders of our common stock may be subject to and adversely affected by, the rights of holders of any preferred stock that are currently issued or that may be issued in the future.

Shareholder Rights Plan

On February 27, 2003, our board of directors declared a dividend of one preferred share purchase right (a "Right") for each outstanding share of common stock on March 21, 2003 (the "Record Date") to the stockholders of record on that date. Each Right gives the holder the right to purchase from us one one-thousandth of a share of our Series A Junior Participating Preferred Stock, par value \$.01 per share (the "Preferred Shares"), at a price of \$45.00 per one one-thousandth of a Preferred Share (the "Purchase Price"), subject to adjustment. The description and

terms of the Rights are included in a Rights Agreement, dated as of February 27, 2003, between the Company and Computershare Trust Company, Inc., as amended by Amendment No. 1 to Rights Agreement dated April 16, 2004 (the "Rights Agreement").

Until the earlier to occur of (i) 10 days following a public announcement that a person or group of affiliated or associated persons has acquired beneficial ownership of 15% or more of the outstanding shares of common stock or any person or group who as of February 27, 2003 beneficially owned 15% or more of the outstanding shares of common stock acquired beneficial ownership of any additional shares of common stock (with certain exceptions, an "Acquiring Person") or (ii) 10 business days (or such later date as may be determined by action of our board of directors prior to such time as any person becomes an Acquiring Person) following the beginning of, or announcement of an intention to make, a tender offer or exchange offer the completion of which would result in the beneficial ownership by a person or group of 15% or more of such outstanding shares of common stock (the earlier of such dates being called the "Distribution Date"), the Rights will be evidenced by a summary of rights attachment to the common stock certificates that gave rise to the Rights.

The Rights Agreement provides that, until the Distribution Date, the Rights will be transferred with and only with the shares of common stock. Until the Distribution Date (or earlier redemption or expiration of the Rights), new common stock certificates issued after the Record Date or upon transfer or new issuance of shares of common stock will contain a note incorporating the Rights Agreement by reference. Until the Distribution Date (or earlier redemption or expiration of the Rights), the surrender or transfer of any certificates for shares of common stock outstanding as of the Record Date, even without such a note or a copy of the summary of rights being attached to the certificate, will also constitute the transfer of the Rights associated with the shares of common stock represented by such certificate. As soon as practicable following the Distribution Date, separate certificates evidencing the Rights ("Right Certificates") will be mailed to holders of record of the shares of common stock as of the close of business on the Distribution Date and such separate Right Certificates alone will evidence the Rights.

The Rights are not exercisable until the Distribution Date. The Rights will expire on February 27, 2013 (the "Final Expiration Date"), unless the Final Expiration Date is advanced or extended or unless we redeem or exchange the Rights at an earlier time, in each case, as described below.

The Rights Agreement was amended on April 16, 2004 to include a provision specifically excepting a certain asset purchase, and all related actions and agreements, from constituting a triggering event for the Rights.

The purchase price payable, and the number of Preferred Shares or other securities or property issuable, upon exercise of the Rights are subject to adjustment from time to time to prevent dilution (i) in the event of a stock dividend on, or a subdivision, combination or reclassification of, the Preferred Shares, (ii) upon the grant to holders of the Preferred Shares of certain rights or warrants to subscribe for or purchase Preferred Shares at a price, or securities convertible into Preferred Shares with a conversion price, less than the then current market price of the Preferred Shares or (iii) upon the distribution to holders of the Preferred Shares of evidences of indebtedness or assets (excluding regular periodic cash dividends paid out of earnings or retained earnings or dividends payable in Preferred Shares) or of subscription rights or warrants (other than those referred to above).

The number of outstanding Rights and the number of one one-thousandths of a Preferred Share issuable upon exercise of each Right are also subject to adjustment in the event of a stock split of the common stock or a stock dividend on the common stock payable in shares of common stock or subdivisions, consolidations or combinations of the common stock occurring, in any such case, prior to the Distribution Date.

Preferred Shares purchasable upon exercise of the Rights will not be redeemable. Each holder of Preferred Shares will receive a quarterly dividend payment of 1,000 times the dividend declared per share of common stock. If we liquidate, the holders of the Preferred Shares will be entitled to an aggregate payment of 1,000 times the aggregate payment made per share of common stock. Each Preferred Share will have 1,000 votes, voting together with the common stock. If we merge, consolidate or are a party to another transaction where shares of common stock are exchanged, each holder of Preferred Shares will have the right to receive 1,000 times the amount received per share of common stock. These rights are protected by customary antidilution provisions.

Because of the Preferred Shares' dividend, liquidation and voting rights, the value of the one one-thousandth of a Preferred Share purchasable upon exercise of each Right should be similar in value to one share of our common stock.

If any person becomes an Acquiring Person, each holder of a Right, other than Rights beneficially owned by the Acquiring Person and its affiliates and associates (which will thereafter be void), will thereafter have the right to receive upon exercise that number of shares of common stock having a market value of two times the exercise price of the Right. If, at any time after a Person becomes an Acquiring Person, we are acquired in a merger or other business combination transaction or 50% or more of our consolidated assets or earning power are sold, proper provision will be made so that each holder of a Right will thereafter have the right to receive, upon the exercise thereof at the then current exercise price of the Right, that number of shares of common stock of the person with whom we have engaged in the transaction described above (or its parent) which at the time of such transaction will have a market value of two times the exercise price of the Right.

If we do not have sufficient shares of authorized common stock to issue the number of shares of common stock required, or if our board of directors chooses, we will deliver upon payment of the exercise price of a Right an amount of cash or securities or other assets equivalent in value to the shares of common stock issuable upon exercise of a Right; provided that, if we fail to meet this obligation within 30 days following the first occurrence of an event triggering the right to purchase shares of common stock, we must deliver, upon exercise of a Right but without requiring payment of the exercise price then in effect, shares of common stock (to the extent available) and then, if necessary, Preferred Shares (to the extent available) and then, if necessary, cash equal in value to the difference between the value of the shares of common stock otherwise issuable upon the exercise of a Right and the exercise price then in effect. Our board of directors may extend the 30-day period described above for up to an additional 60 days to permit the taking of action that may be necessary to authorize sufficient additional shares of common stock to permit the issuance of shares of common stock upon the exercise in full of the Rights.

At any time after any person becomes an Acquiring Person and before the acquisition by any person or group of a majority of the outstanding shares of common stock, our board of directors may exchange the Rights (other than Rights owned by such person or group which have become void), in whole or in part, for shares of common stock or Preferred Shares at an exchange ratio of one share of common stock, or a fractional Preferred Share (or other preferred stock) of the same value as a share of common stock, per Right (subject to adjustment).

With some exceptions, no adjustment in the Purchase Price will be required until cumulative adjustments require an adjustment of at least 1% in such Purchase Price. No fractional Preferred Shares or shares of common stock will be issued (other than fractions that are integral multiples of one one-thousandth of a Preferred Share, which may, at our election, be evidenced by depositary receipts) and instead, an adjustment in cash will be made based on the current market price of the Preferred Shares or the shares of common stock.

At any time before any person becomes an Acquiring Person, our board of directors may redeem the Rights in whole, but not in part, at a price of \$0.001 per Right (the "Redemption Price") payable, at our option, in cash, shares of common stock or such other form of consideration as our board of directors may choose. The redemption of the Rights may be made effective at the time and in the manner that our board of directors in its sole discretion may choose. Immediately upon any redemption of the Rights, the right to exercise the Rights will terminate and the only right of the holders of Rights will be to receive the Redemption Price.

For so long as the Rights are then redeemable, we may amend the Rights Agreement in any manner except that we may not change the Redemption Price. After the Rights are no longer redeemable, we may, amend the Rights Agreement in any manner that does not negatively affect the interests of Rights holders, except that we may not change the Redemption Price.

Until a Right is exercised, the Right holder will have no rights as our stockholder, including, without limitation, the right to vote at our meetings or to receive dividends from us.

Control Share Acquisition Law. Under Chapter 110D of the Massachusetts General Laws governing "control share acquisitions," any shareholder of certain publicly-held Massachusetts corporations who acquires certain ranges of voting power — one-fifth or more but less than one-third of all voting power, one-third or more but less than a majority of all voting power, or a majority or more of all voting power — may not (except in certain transactions) vote such stock unless the shareholders (excluding the shares held by the interested shareholders) of the corporation so authorize. As permitted by Chapter 110D, our restated bylaws, as amended, include a provision which excludes us from the applicability of that statute.

Business Combination Statute. Chapter 110F of the Massachusetts General Laws, entitled "Business Combinations with Interested Shareholders," applies to publicly-held Massachusetts corporations with 200 or more shareholders of record. Generally, this statute prohibits such Massachusetts corporations from engaging in a "business combination" with an "interested shareholder" for a period of three years following the date of the transaction in which the person becomes an interested shareholder unless (a) the interested shareholder obtains the approval of the corporation's board of directors prior to becoming an interested shareholder; (b) the interested shareholder acquires at least 90% of the voting stock of the corporation (excluding shares held by certain affiliates of the corporation) outstanding at the time he becomes an interested shareholder; or (c) the business combination is both approved by the board of directors and authorized at an annual or special meeting of shareholders by the holders of at least two-thirds of the outstanding voting stock of the corporation (excluding shares held by the interested shareholder). An "interested shareholder" is a person who, together with affiliates and associates, owns (or at any time within the prior three years did own) 5% or more of the outstanding voting stock of the corporation. A "business combination" includes, among other transactions, a merger, stock or asset sale and other transactions resulting in a financial benefit to the shareholder. Our restated articles of organization, as amended, and amended and restated bylaws, as amended, do not expressly provide for opting out of the provisions of Chapter 110F. As a result, the application of this statute to us could discourage or make it more difficult for any person or group of persons to attempt to obtain control over us. We may at any time amend our restated articles of organization, as amended, or amended and restated bylaws, as amended, to elect not to be governed by Chapter 110F, by a vote of the holders of a majority of our outstanding common stock, but such an amendment would not be effective for 12 months and would not apply to a business combination with any person who became an interested shareholder prior to the date of the amendment.

Certain Provisions of Our Restated Articles of Organization, as amended, Amended and Restated By-Laws, as amended, and Shareholder Rights Plan

Our restated articles of organization, as amended, include several provisions which may render more difficult an unfriendly tender offer, proxy contest, merger or other change in control of our ownership.

Preferred Stock. Our restated articles of organization, as amended, permit our board of directors to issue preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof, without further vote or action by the shareholders. The issuance of preferred stock may have the effect of delaying, deferring or preventing our change in control and may adversely affect the voting and other rights of the holders of our common stock. See "Preferred Stock" and "Shareholders Rights Plan" above.

Classification of Board of Directors. Our restated articles of organization, as amended, provide for the classification of our board of directors into three classes, with the classes being elected for staggered three-year terms. At each annual meeting of shareholders, directors will be elected to succeed those in the class whose term then expires, and each elected director shall serve for a term expiring at the third succeeding annual meeting of shareholders after such director's election, and until the director's successor is elected and qualified. Thus, directors stand for election only once in three years. This provision also restricts the ability of shareholders to enlarge the board of directors. Changes in the number of directors may be effected by a vote of a majority of the Continuing Directors (as defined in our restated articles of organization, as amended) or by the shareholders by vote of at least 80% of our outstanding common stock, voting as a single class. Under this provision, directors may only be removed with or without cause by the affirmative vote of the holders at least 80% of the combined voting power of the outstanding shares of our common stock, voting together as a single class, or upon the vote of a majority of the Continuing Directors.

Fair Price Provision. Our restated articles of organization, as amended, contain a "Fair Price Provision" that is intended to protect shareholders who do not tender their shares in a takeover bid by guaranteeing them a minimum price for their shares in any subsequent attempt to purchase such remaining shares at a price lower than the acquirer's original acquisition price. The Fair Price Provision requires the affirmative vote of the holders of at least 80% of our outstanding common stock for certain business combinations with a Related Person (as defined in our restated articles of organization, as amended), unless specified price criteria and procedural requirements are met or the business combination is approved by a majority of the Continuing Directors. Continuing Director is defined in our restated articles of organization, as amended, to include any director (i) who is not an affiliate of any beneficial owner of 5% of the voting power of our outstanding voting stock, and (ii) who served as a director before such beneficial owner acquired his 5% beneficial ownership interest. Any successor of a Continuing Director who is unaffiliated with a 5% beneficial owner and who is recommended to succeed a Continued Director by a majority of the Continuing Directors is also a Continuing Director. A Related Person includes a person who, together with affiliates and associates, beneficially owns more than 5% our outstanding common stock.

Shareholder Rights Plan. Under the Rights Agreement described above, each outstanding share of common stock has attached to it one purchase right which entitles the holder to purchase from us one one-thousandth of a share of Series A Junior Participating Preferred Stock at a price of \$45.00, subject to adjustment. This could prevent or delay a change in control of our ownership.

Indemnification Provision. Our restated articles of organization, as amended, provide that we may, either in our bylaws or by contract, provide for the indemnification of our directors, officers, employees and agents, by whomever elected or appointed, to the fullest extent permitted by applicable law, as it may be amended from time to time.

Listing

Our common stock is listed on the NASDAQ Capital Market under the symbol "PBIO."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Limited. Its address is 350 Indiana Street, Suite 800, Golden, Colorado, 80401, and its telephone number is (303) 262-0703.

DESCRIPTION OF WARRANTS

We may issue warrants to purchase common stock, preferred stock or other securities or any combination of the foregoing. We may issue warrants independently. Warrants sold with other securities may be attached to or separate from the other securities. We may issue warrants under one or more warrant agreements between us and the warrant holder or under one or more warrant agreements between us and a warrant agent that we will name in the prospectus supplement.

The prospectus supplement relating to any warrants that we may offer will include specific terms relating to the offering. We will file the form of any warrant agreement with the SEC, and you should read the warrant agreement for provisions that may be important to you. The prospectus supplement will include some or all of the following terms:

- the title of the warrants;
- the aggregate number of warrants offered;
- the designation, number and terms of the common stock, preferred stock or other securities purchasable upon exercise of the warrants, and procedures by which those numbers may be adjusted;
- the purchase price, if any, of the warrants;

- the exercise price of the warrants;
- the dates or periods during which the warrants are exercisable;
- the designation and terms of any securities with which the warrants are issued;
- if the warrants are issued as a unit with another security, the date, if any, on and after which the warrants and the other security will be separately transferable;
- if the exercise price is not payable in U.S. dollars, the foreign currency, currency unit or composite currency in which the exercise price is denominated;
- any minimum or maximum amount of warrants that may be exercised at any one time;
- any terms, procedures and limitations relating to the transferability, exchange, exercise, amendment or termination of the warrants;
- any adjustments to the terms of the warrants resulting from the occurrence of certain events or from the entry into or consummation by us of certain transactions; and
- any material or special United States federal income tax consequences of holding or exercising the warrants.

Unless otherwise specified in the applicable prospectus supplement, holders of warrants may exercise the warrants by delivering the warrant agreement to be exercised, together with specified information, and paying the required amount as provided in the applicable prospectus supplement. We will set forth in the warrant agreement and in the applicable prospectus supplement the exercise procedure and the information that the holder of the warrants will be required to deliver in connection with the exercise of the warrant.

Upon compliance with the warrant exercise procedure, and upon receipt of the required payment, the warrant agreement, and the requisite information for exercise, we will issue and deliver the securities purchasable upon such exercise. If the warrant is exercised for fewer than all of the securities for which the warrant is exercisable, then we will issue a new warrant for the remaining number of securities. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for the warrants.

DESCRIPTION OF UNITS

The following description, together with the additional information we include in any applicable prospectus supplement, summarizes the material terms and provisions of the units that we may offer under this prospectus. Units may consist of shares of common stock and/or preferred stock and/or warrants offered by any prospectus supplement, and may be attached to or separate from those securities. While the terms we have summarized below will generally apply to any future units that we may offer under this prospectus, we will describe the particular terms of any series of units that we may offer in more detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the terms described below.

We will incorporate by reference into the Registration Statement the form of unit agreement, if any, including a form of unit certificate, if any, that describes the terms of the series of units we are offering before the issuance of such series of units. The following summary of material provisions of the units and the unit agreements, if any, are subject to, and qualified in their entirety by reference to, all the provisions of the unit agreement applicable to a particular series of units. We urge you to read the applicable prospectus supplements related to the units that we sell under this prospectus, as well as the complete unit agreements that contain the terms of the units.

We may issue units comprised of one or more shares of common stock or preferred stock and warrants in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included

in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement, if any, under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date.

We will describe in the applicable prospectus supplement the terms of the series of units, including:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- the rights and obligations of the unit agent, if any;
- any provisions of the governing unit agreement that differ from those described in this section, "Description of Units"; and
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units.

The provisions described in this section, as well as those described under "Description of Capital Stock" and "Description of Warrants," will apply to any common stock, preferred stock or warrants included in each unit.

We may issue units in such amounts and in numerous distinct series as we determine.

PLAN OF DISTRIBUTION

We may sell the securities being offered pursuant to this prospectus directly to purchasers, to or through underwriters, through dealers or agents, or through a combination of such methods. The prospectus supplement with respect to the securities being offered will set forth the terms of the offering of those securities, including the names of the underwriters, dealers or agents, if any, the purchase price, the net proceeds to us, any underwriting discounts and other items constituting underwriters' compensation, the public offering price, any discounts or concessions allowed or reallocated or paid to dealers and any securities exchanges on which such securities may be listed.

If underwriters are used in an offering, we will execute an underwriting agreement with such underwriters and will specify the name of each underwriter and the terms of the transaction (including any underwriting discounts and other terms constituting compensation of the underwriters and any dealers) in a prospectus supplement. The securities may be offered to the public either through underwriting syndicates represented by managing underwriters or directly by one or more investment banking firms or others, as designated. If an underwriting syndicate is used, the managing underwriter(s) will be specified on the cover of the prospectus supplement. If underwriters are used in the sale, the offered securities will be acquired by the underwriters for their own accounts and may be resold by the underwriters from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price, at varying prices determined at the time of sale, or at market prices prevailing at the time of sale. Any public offering price and any discounts or concessions allowed or reallocated or paid to dealers may be changed from time to time. Unless otherwise set forth in the prospectus supplement, the obligations of the underwriters to purchase the offered securities will be subject to certain conditions precedent.

If dealers are used in an offering, we will sell the securities to the dealers as principals. The dealers then may resell the securities to the public at varying prices which they determine at the time of resale. The names of the dealers and the terms of the transaction will be specified in a prospectus supplement.

The securities may be sold directly by us or through agents we designate from time to time at a fixed price or prices, which may be changed, at varying prices determined at the time of sale, at market prices prevailing at the time of sale or at negotiated prices. If agents are used in an offering, the names of the agents and the terms of the agency will be specified in a prospectus supplement. Unless otherwise indicated in a prospectus supplement, the agents will act on a best-efforts basis for the period of their appointment.

Dealers and agents named in a prospectus supplement may be deemed to be underwriters (within the meaning of the Securities Act) of the securities described therein. In addition, we may sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any resales thereof.

Underwriters, dealers and agents may be entitled to indemnification by us against specific civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which the underwriters, dealers or agents may be required to make in respect thereof, under underwriting or other agreements. The terms of any indemnification provisions will be set forth in a prospectus supplement. Certain underwriters, dealers or agents and their associates may engage in transactions with and perform services for us in the ordinary course of business.

If so indicated in a prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by institutional investors to purchase securities pursuant to contracts providing for payment and delivery on a future date. We may enter into contracts with commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutional investors. The obligations of any institutional investor will be subject to the condition that its purchase of the offered securities will not be illegal at the time of delivery. The underwriters and other agents will not be responsible for the validity or performance of such contracts.

Each series of securities will be a new issue of securities and will have no established trading market (other than our common stock). Any common stock sold pursuant to a prospectus supplement may be eligible for quotation on the NASDAQ Capital Market or such other trading market, if any, as specified in a prospectus supplement. Any securities sold pursuant to a prospectus supplement may or may not be listed on a national securities exchange or approved for trading on any other trading market.

Any underwriters, dealers or agents to or through whom such securities are sold for public offering and sale may make a market in such securities, but such underwriters, dealers or agents will not be obligated to do so and may discontinue any market making at any time without notice. No assurance can be given as to the liquidity of the trading market for any such securities. The amount of expenses expected to be incurred by us in connection with any issuance of securities will be set forth in the applicable prospectus supplement. Certain of the underwriters, dealers or agents and their associates may engage in transactions with, and perform services for, us and certain of our affiliates in the ordinary course of business.

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. These may include over-allotment, stabilization, syndicate short covering transactions and penalty bids. Over-allotment involves sales in excess of the offering size, which creates a short position. Stabilizing transactions involve bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Syndicate short covering transactions involve purchase of securities in the open market after the distribution has been completed in order to cover syndicate short positions. Penalty bids permit the underwriters to reclaim selling concessions from dealers when the securities originally sold by the dealers are purchased in covering transactions to cover syndicate short positions. These transactions may cause the price of the securities sold in an offering to be higher than it would otherwise be. These transactions, if commenced, may be discontinued by the underwriters at any time.

During such time as we may be engaged in a distribution of the securities covered by this prospectus, we are required to comply with Regulation M promulgated under the Securities Exchange Act of 1934, as amended. With certain exceptions, Regulation M precludes us, any affiliated purchasers, and any broker-dealer or other person who participates in such distribution from bidding for or purchasing, or attempting to induce any person to bid for or purchase, any security which is the subject of the distribution until the entire distribution is complete. Regulation M also restricts bids or purchases made in order to stabilize the price of a security in connection with the distribution of that security. All of the foregoing may affect the marketability of our shares of common stock.

LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, legal matters related to the securities offered under this prospectus and any offerings made pursuant to this prospectus will be passed upon by Pepper

Hamilton LLP. If legal matters in connection with any offerings made pursuant to this prospectus are passed upon by counsel other than Pepper Hamilton LLP, such counsel will be named in the prospectus supplement relating to such offering.

EXPERTS

The consolidated financial statements as of and for the fiscal year ended December 31, 2010, incorporated in this Prospectus by reference from the Company's Annual Report on Form 10-K, have been audited by Marcum LLP, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference. Such consolidated financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

The consolidated financial statements as of and for the fiscal year ended December 31, 2009, incorporated in this Prospectus by reference from the Company's Annual Report on Form 10-K, have been audited by UHY LLP, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference. Such consolidated financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

The following table sets forth the costs and expenses, other than underwriting discounts and commissions, incurred in connection with the distribution of the securities being registered (all amounts are estimated except the SEC registration fee).

SEC registration fee	\$	1,741.50
Printing and engraving expenses	\$	10,000*
Legal fees and expenses	\$	25,000*
Accounting fees and expenses	\$	10,000*
Transfer agents fees	\$	10,000*
Miscellaneous	\$	10,000*
Total	\$	66,741.50

* Estimated pursuant to Rule 511 of Regulation S-K.

ITEM 15. INDEMNIFICATION OF OFFICERS AND DIRECTORS

Section 8.52 of Chapter 156D of the Massachusetts General Laws provides that a corporation shall indemnify a director who was wholly successful, on the merits or otherwise, in the defense of any proceeding to which he or she was a party because he or she was a director of the corporation against reasonable expenses incurred by him in connection with the proceeding. Section 8.51 of Chapter 156D of the Massachusetts General Laws provides that a corporation may indemnify a director against liability if: (1)(i) he or she conducted himself or herself in good faith; and (ii) he or she reasonably believed that his or her conduct was in the best interests of the corporation or that his or her conduct was at least not opposed to the best interests of the corporation; and (iii) in the case of any criminal proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful; or (2) he or she engaged in conduct for which he or she shall not be liable under a provision of the corporation's articles of organization authorized by Section 2.02(b)(4) of Chapter 156D of the Massachusetts General Laws.

Section 8.56 of Chapter 156D of the Massachusetts General Laws provides that a corporation may indemnify and advance expenses to an officer of the corporation who is a party to a proceeding because he or she is an officer of the corporation: (1) to the same extent as a director; and (2) if he or she is an officer but not a director, to such further extent as may be provided by the articles of organization, the bylaws, a resolution of the board of directors, or contract except for liability arising out of acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law.

Section 8.56 also provides that an officer of a corporation who is not a director is entitled to mandatory indemnification under Section 8.52, and that the officer may apply to a court for indemnification or an advance for expenses, in each case to the same extent to which a director may be entitled to indemnification or advance under those provisions.

Section 8.57 of Chapter 156D of the Massachusetts General Laws also affords a Massachusetts corporation the power to obtain insurance on behalf of its directors and officers against liabilities incurred by them in these capacities.

Section 2.02(b)(4) of Chapter 156D of the Massachusetts General Laws provides that the articles of organization of a corporation may include a provision eliminating or limiting the personal liability of a director to the corporation for monetary damages for breach of fiduciary duty as a director notwithstanding any provision of law imposing such liability, provided, however, that such provision shall not eliminate or limit the liability of a director (a) for any breach of the director's duty of loyalty to the corporation or its shareholders, (b) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (c) for improper

distributions to shareholders, or (d) for any transaction from which the director derived an improper personal benefit. We have included such a provision in our restated articles of organization, as amended.

Our restated articles of organization, as amended, provide that we may, either in our Bylaws or by contract, provide for the indemnification of our directors, officers, employees and agents, by whomever elected or appointed, to the fullest extent permitted by applicable law, as it may be amended from time to time.

Our amended and restated ByLaws, as amended, include provisions to permit the indemnification of officers and directors for damages arising out of the performance of their duties unless such damages arise out of the officer's or director's failure to exercise his or her duties and to discharge the duties of his or her office in good faith and in the reasonable belief that his action was in, or not opposed to, our best interest, and with respect to any criminal action or proceeding, had no reasonable cause to believe that his conduct was unlawful.

In addition, we maintain a directors' and officers' liability insurance policy to cover claims up to \$1,000,000.

ITEM 16. EXHIBITS

Exhibit No.	Description of Exhibit	Reference
3.1	Restated Articles of Organization of the Company	(1) - 3.1
3.2	Amendment to the Restated Articles of Organization of the Company, as amended	(2) - 3.1
3.3	Articles of Amendment to the Restated Articles of Organization of the Company, as amended	(9) - 3.1
3.4	Articles of Amendment to the Restated Articles of Organization of the Company, as amended	(8) - 3.1
3.5	Articles of Amendment to the Restated Articles of Organization of the Company, as amended	(10) - 3.1
3.6	Amended and Restated Bylaws of the Company	(1) - 3.2
3.7	Amendment to Amended and Restated Bylaws of the Company	(3) - 3.3
4.1	Specimen Certificate for Shares of the Company's Common Stock	(4) - 4.1
4.2	Description of Capital Stock (contained in the Restated Articles of Organization, as amended, of the Company filed as Exhibits 3.1 and 3.2)	(1) - 3.1 & 3.2
4.3	Rights Agreement dated as of February 27, 2003 between the Company and Computershare Trust Company, Inc.	(5) - 4
4.4	Amendment No. 1 to Rights Agreement dated April 16, 2004 between the Company and Computershare Trust Company, Inc.	(6) - 4
4.5	Securities Purchase Agreement dated November 21, 2007 between the Company and the purchasers named therein	(7) - 4.9
4.6	Registration Rights Agreement dated November 21, 2007 between the Company and the purchasers named therein	(7) - 4.10
4.7	Securities Purchase Agreement dated February 12, 2009 between the Company and the purchasers named therein	(8) - 4.1
4.8	Form of 30-Month Common Stock Purchase Warrant	(8) - 4.4
4.9	Amendment to 30-Month Common Stock Purchase Warrant	(12) - 4.2
4.10	Registration Rights Agreement dated February 12, 2009 between the Company and the purchasers named therein	(8) - 4.5
4.11	Securities Purchase Agreement dated November 18, 2009 between the Company and the purchasers named therein	(9) - 4.1
4.12	Registration Rights Agreement dated November 18, 2009 between the Company and the purchasers named therein	(9) - 4.2
4.13	Series B Preferred Stock Purchase Warrant	(9) - 4.3
4.14	Amendment No. 1 to Series B Convertible Preferred Stock Purchase Warrant	(12) - 4.1
4.15	Securities Purchase Agreement dated April 8, 2011 between the Company and the purchasers named therein	10) - 4.1
4.16	Registration Rights Agreement dated April 8, 2011 between the Company and the purchasers named therein	(10) - 4.3
4.17	Amendment No. 1 to Securities Purchase Agreement dated June 21, 2011, amending Securities Purchase Agreement dated April 8, 2011 between the Company and the purchasers named therein	(11) - 4.1
4.18	Form of Warrant	(10) - 4.2
5.1	Legal Opinion of Pepper Hamilton LLP	Filed herewith
23.1	Consent of Independent Registered Public Accounting Firm (Marcum LLP)	Filed herewith
23.2	Consent of Independent Registered Public Accounting Firm (UHY LLP)	Filed herewith
23.3	Consent of Pepper Hamilton LLP (included in its Legal Opinion filed as Exhibit 5.1 hereto)	Filed herewith
24.1	Power of Attorney (included on the signature page of this registration statement)	Filed herewith

- (1) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Registration Statement on Form S-1 (Registration No. 333-10759) filed with the Commission on August 23, 1996.
- (2) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 2004.
- (3) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2002.
- (4) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Annual Report on Form 10-KSB for the fiscal year ended December 31, 2004.
- (5) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission March 12, 2003.
- (6) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission April 16, 2004.
- (7) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Registration Statement on Form S-3 (Registration No. 333-148227) filed with the Commission on December 20, 2007.
- (8) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on February 18, 2009.
- (9) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on November 19, 2009.
- (10) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on April 12, 2011.
- (11) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on June 21, 2011.
- (12) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on August 11, 2011.

(13) ITEM 17. UNDERTAKINGS

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers or persons controlling the registrant pursuant to the foregoing provisions described in Item 15 above, or otherwise, the registrant has been informed 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 registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes:

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

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

(ii) To reflect in the prospectus any facts or events arising after the effective date of 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 Commission pursuant to Rule 424(b) (§230.424(b) of this chapter) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement; provided, however, that clauses (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the Registration Statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) (§230.424(b) of this chapter) that is part of the Registration Statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

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

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

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) (§230.424(b)(3) of this chapter) 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

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) (§230.424(b)(2), (b)(5), or (b)(7) of this chapter) 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) (§230.415(a)(1)(i), (vii), or (x) of this chapter) 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 that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of 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.

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

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(6) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the 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.

(7) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of the Registration Statement as of the time it was declared effective.

(8) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus 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.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in City of South Easton, Commonwealth of Massachusetts, on the date indicated below.

Pressure BioSciences, Inc.

September 13, 2011
Date

By: /s/ Richard T. Schumacher
Richard T. Schumacher
President and Chief Executive Officer

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

Each person whose signature appears below hereby constitutes and appoints Richard T. Schumacher as such person's true and lawful attorney-in-fact and agent with full power and substitution for such person and in such person's name, place and stead, in any and all capacities, to sign and to file with the Securities and Exchange Commission, any and all amendments and post-effective amendments to this registration statement, with exhibits thereto and other documents in connection therewith, including any registration statements or amendments thereto filed pursuant to Rule 462(b) under the Securities Act, granting unto said attorney-in-fact and agent 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 such person might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent or any substitute therefor, may lawfully do or cause to be done by virtue thereof.

Signature	Title	Date
<i>/s/ Richard T. Schumacher</i> Richard T. Schumacher	President and Chief Executive Officer (Principal Executive Officer, Principal Financial Officer and Principal Accounting Officer)	September 13, 2011
<i>/s/ R. Wayne Fritzsche</i> R. Wayne Fritzsche	Director and Chairman of the Board of Directors	September 13, 2011
<i>/s/ J. Donald Payne</i> J. Donald Payne	Director	September 13, 2011
<i>/s/ Calvin A. Saravis, Ph.D.</i> Calvin A. Saravis, Ph.D.	Director	September 13, 2011
<i>/s/ Alan D. Rosenson</i> Alan D. Rosenson	Director	September 13, 2011
<i>/s/ Alan I. Goldberg</i> Alan I. Goldberg	Director	September 13, 2011
<i>/s/ Gregory G. Freitag</i> Gregory G. Freitag	Director	September 13, 2011
<i>/s/ Jeffrey N. Peterson</i> Jeffrey N. Peterson	Director	September 13, 2011

EXHIBIT INDEX

Exhibit No.	Description of Exhibit	Reference
3.1	Restated Articles of Organization of the Company	(1) - 3.1
3.2	Amendment to the Restated Articles of Organization of the Company, as amended	(2) - 3.1
3.3	Articles of Amendment to the Restated Articles of Organization of the Company, as amended	(9) - 3.1
3.4	Articles of Amendment to the Restated Articles of Organization of the Company, as amended	(8) - 3.1
3.5	Articles of Amendment to the Restated Articles of Organization of the Company, as amended	(10) - 3.1
3.6	Amended and Restated Bylaws of the Company	(1) - 3.2
3.7	Amendment to Amended and Restated Bylaws of the Company	(3) - 3.3
4.1	Specimen Certificate for Shares of the Company's Common Stock	(4) - 4.1
4.2	Description of Capital Stock (contained in the Restated Articles of Organization, as amended, of the Company filed as Exhibits 3.1 and 3.2)	(1) - 3.1 & 3.2
4.3	Rights Agreement dated as of February 27, 2003 between the Company and Computershare Trust Company, Inc.	(5) - 4
4.4	Amendment No. 1 to Rights Agreement dated April 16, 2004 between the Company and Computershare Trust Company, Inc.	(6) - 4
4.5	Securities Purchase Agreement dated November 21, 2007 between the Company and the purchasers named therein	(7) - 4.9
4.6	Registration Rights Agreement dated November 21, 2007 between the Company and the purchasers named therein	(7) - 4.10
4.7	Securities Purchase Agreement dated February 12, 2009 between the Company and the purchasers named therein	(8) - 4.1
4.8	Form of 30-Month Common Stock Purchase Warrant	(8) - 4.4
4.9	Amendment to 30-Month Common Stock Purchase Warrant	(12) - 4.2
4.10	Registration Rights Agreement dated February 12, 2009 between the Company and the purchasers named therein	(8) - 4.5
4.11	Securities Purchase Agreement dated November 18, 2009 between the Company and the purchasers named therein	(9) - 4.1
4.12	Registration Rights Agreement dated November 18, 2009 between the Company and the purchasers named therein	(9) - 4.2
4.13	Series B Preferred Stock Purchase Warrant	(9) - 4.3
4.14	Amendment No. 1 to Series B Convertible Preferred Stock Purchase Warrant	(12) - 4.1
4.15	Securities Purchase Agreement dated April 8, 2011 between the Company and the purchasers named therein	(10) - 4.1
4.16	Registration Rights Agreement dated April 8, 2011 between the Company and the purchasers named therein	(10) - 4.3
4.17	Amendment No. 1 to Securities Purchase Agreement dated June 21, 2011, amending Securities Purchase Agreement dated April 8, 2011 between the Company and the purchasers named therein	(11) - 4.1
4.18	Form of Warrant	(10) - 4.2
5.1	Legal Opinion of Pepper Hamilton LLP	Filed herewith
23.1	Consent of Independent Registered Public Accounting Firm (Marcum LLP)	Filed herewith
23.2	Consent of Independent Registered Public Accounting Firm (UHY LLP)	Filed herewith
23.3	Consent of Pepper Hamilton LLP (included in its Legal Opinion filed as Exhibit 5.1 hereto)	Filed herewith
24.1	Power of Attorney (included on the signature page of this registration statement)	Filed herewith

- (1) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Registration Statement on Form S-1 (Registration No. 333-10759) filed with the Commission on August 23, 1996.
- (2) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 2004.
- (3) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2002.
- (4) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Annual Report on Form 10-KSB for the fiscal year ended December 31, 2004.
- (5) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission March 12, 2003.
- (6) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission April 16, 2004.
- (7) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Registration Statement on Form S-3 (Registration No. 333-148227) filed with the Commission on December 20, 2007.
- (8) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on February 18, 2009.
- (9) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on November 19, 2009.
- (10) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on April 12, 2011.
- (11) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on June 21, 2011.
- (12) We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on August 11, 2011.

Pepper Hamilton LLP

15th Floor, Oliver Street Tower
125 High Street
Boston, MA 02110-2736
617.204.5100
Fax 617.204.5150

September 13, 2011

Pressure BioSciences, Inc.
14 Norfolk Avenue
South Easton, Massachusetts 02375

Re: Registration Statement on Form S-3

Ladies and Gentlemen:

This opinion is furnished to you in connection with the Registration Statement on Form S-3 (the "**Registration Statement**") being filed by Pressure BioSciences, Inc., a Massachusetts corporation (the "**Company**"), with the Securities and Exchange Commission (the "**Commission**") under the Securities Act of 1933, as amended (the "**Securities Act**"), relating to the registration of up to \$15,000,000 in aggregate offering price of: (1) shares of the Company's common stock, par value \$0.01 per share (the "**Common Stock**"), together with an equal number of rights (the "**Rights**"), issuable pursuant to that certain Rights Agreement dated February 27, 2003, between the Company and Computershare Trust Company, as amended (the "**Rights Agreement**"), providing, in effect, for the delivery of a Right, along with each share of Common Stock issued by the Company; (2) one or more series of stock within the class of the Company's preferred stock, par value \$0.01 per share (the "**Preferred Stock**"); (3) warrants to purchase shares of Common Stock and/or shares of Preferred Stock (the "**Warrants**"); and (4) units consisting of one or more shares of Common Stock, Preferred Stock and/or Warrants in any combination ("**Units**") (collectively, the "**Securities**"). The Securities may be offered and sold from time to time as set forth in the prospectus which forms a part of the Registration Statement, and as may be set forth in one or more supplements to the prospectus, after the Registration Statement becomes effective.

You have requested that we render the opinions set forth in this letter and we are furnishing this opinion pursuant to the requirements of Item 601(b)(5) of Regulation S-K promulgated by the Commission under the Securities Act.

In connection with this opinion, we have examined the following documents (collectively, the "**Documents**"): (1) the Registration Statement, (2) the exhibits to the Registration Statement, (3) the Company's Restated Articles of Organization, as amended (the "**Charter**"), and Amended and Restated Bylaws, as amended (the "**Bylaws**"), as in effect on the date hereof, (4) the Rights Agreement, (5) the corporate records and resolutions of the Company relating to the proceedings of the Board of Directors of the Company, and (6) an officer's certificate certifying as to the Charter, Bylaws, resolutions of the Board of Directors, and incumbency of officers.

For purposes of this opinion, we have assumed, without any investigation, (1) the legal capacity of each natural person, (2) the full power and authority of each entity and person other than the Company to execute, deliver and perform each document heretofore executed and delivered or hereafter to be executed and delivered and to do each other act heretofore done or hereafter to be done by such entity or person, (3) the due authorization by each entity or person other than the Company of each document heretofore executed and delivered or hereafter to be executed and delivered and to do each other act heretofore done or to be done by such entity or person, (4) the due execution and delivery by each entity or person other than the Company of each document heretofore executed and delivered or hereafter to be executed and delivered by such entity or person, (5) the legality, validity, binding effect and enforceability of each document heretofore executed and delivered or hereafter to be executed and delivered by each entity or person other than the Company and of each other act heretofore done or hereafter to be done by such entity or person, (6) the genuineness of each signature on, and the completeness of each document submitted to us as an original, (7) the conformity to the original of each document submitted to us as a copy, (8) the authenticity of the original of each document submitted to us as a copy, (9) the completeness, accuracy and proper indexing of all governmental and judicial records searched and (10) no modification of any provision of any document, no waiver of any right or remedy and no exercise of any right or remedy other than in a commercially reasonable and conscionable manner and in good faith. We have also assumed that the Securities will be issued against payment of valid consideration under applicable law.

We have, without independent investigation, relied upon the representations and warranties of the various parties as to matters of objective fact contained in the Documents.

We have not made any independent review or investigation of orders, judgments, rules or other regulations or decrees by which the Company or any of its property may be bound, nor have we made any independent investigation as to the existence of actions, suits, investigations or proceedings, if any, pending or threatened against the Company.

The opinions expressed herein are based solely upon: (1) our review of the Documents; (2) discussions with those of our attorneys who have devoted substantive attention to the matters contained herein; and (3) such review of published sources of law as we have deemed necessary.

Our opinions contained herein are limited to the laws of the Commonwealth of Massachusetts, including the statutory provisions, and reported judicial decisions interpreting these laws, and the federal law of the United States of America.

For the purposes of the opinions set forth below, we have assumed that the issuance of, and certain terms of, the Securities

that may be issued from time to time, as well as any agreements entered into in connection therewith, will have been duly authorized and established by proper action of the Company, consistent with the procedures and terms described in the Registration Statement and in accordance with the Charter, the Bylaws and applicable Massachusetts law, including approvals by the Company's stockholders and Board of Directors, if required, in a manner that does not violate any law, government or court-imposed order, restriction, agreement or instrument then binding on the Company (the "**Authorizing Proceedings**").

In expressing the opinions set forth below, we have further assumed that prior to any issuance of Preferred Stock, Warrants to purchase Preferred Stock or Units that contain Preferred Stock or Warrants to purchase Preferred Stock, such Preferred Stock shall be designated in accordance with the Charter and applicable Massachusetts law and articles of amendment with a certificate of designation shall be duly filed with the Secretary of State of the Commonwealth of Massachusetts.

In expressing the opinions set forth below, we have further assumed that if the Warrants or the portion of Units that contain Warrants will be issued under one or more warrant agreements (each, a "**Warrant Agreement**") between the Company and a financial institution identified therein as a warrant agent (the "**Warrant Agent**"): (1) the Warrant Agent will be duly organized, validly existing and in good standing under the laws of its jurisdiction of organization; (2) the Warrant Agent will be duly qualified to engage in the activities contemplated by the Warrant Agreement; (3) the terms of the Warrants and of their issuance will be consistent with the Warrant Agreement; (4) the Warrant Agreement will be duly authorized, executed and delivered by the Warrant Agent and will constitute the legal, valid and binding obligation of the Warrant Agent enforceable against the Warrant Agent in accordance with its terms; (5) the Warrant Agent will be in compliance with all applicable laws and regulations; and (6) the Warrant Agent will have the requisite organizational and legal power and authority to perform its obligations under the Warrant Agreement.

The opinions hereafter expressed in numbered paragraphs 3 and 4 with respect to the enforceability of the Securities are subject to the general qualifications that such rights and remedies may be subject to and affected by: (1) applicable bankruptcy, insolvency, reorganization, receivership, moratorium, or assignment for the benefit of creditors laws and other laws affecting the rights and remedies of creditors generally, including, without limitation, laws regarding fraudulent transfers, fraudulent conveyances, preferences, avoidance, automatic stay and turn-over; (2) general principles of equity, including, without limitation, those governing the availability of equitable remedies, affording equitable defenses, requiring good faith, fair dealing and reasonableness in the performance and enforcement of a contract, and affording defenses based upon unconscionability, lack of notice, impracticability or impossibility of performance; and (3) general rules of contract law with respect to matters such as the election of remedies, the limits of severability, mutuality of obligations, and opportunity to cure, limitations on the enforceability of indemnification, contribution or exculpation provisions under applicable securities laws or otherwise and limitations on the enforceability of provisions which are in violation of public policy.

We express no legal opinion upon any matter other than those explicitly addressed in numbered paragraphs 1 through 4 below, and our express opinions therein contained shall not be interpreted to be an implied opinion upon any other matter.

Based upon the foregoing, and subject to the assumptions, limitations and qualifications stated herein, we are of the opinion that:

1. Upon the completion of all Authorizing Proceedings relating to the Securities that are Common Stock and related Rights and the due execution, countersignature and delivery of certificates evidencing such Common Stock and assuming that at the time of any offering or sale of such Common Stock, the Company shall have such number of shares of Common Stock and related Rights as are included in such offering or sale authorized and available for issuance, the Common Stock and related Rights will be duly authorized and, when and if delivered against payment therefor in accordance with the applicable definitive purchase, underwriting or similar agreement, will be validly issued, fully paid and nonassessable.

2. Upon the completion of all Authorizing Proceedings relating to the Securities that are Preferred Stock, and upon the designation of such Preferred Stock in accordance with applicable law and the filing of appropriate articles of amendment with a certificate of designation with the Secretary of State of the Commonwealth of Massachusetts, and the due execution, countersignature and delivery of certificates evidencing such Preferred Stock, and assuming that at the time of any offering or sale of such Preferred Stock, the Company shall have such number of shares of Preferred Stock as are included in such offering or sale authorized and available for issuance, the Preferred Stock will be duly authorized and, when and if delivered against payment therefor in accordance with the applicable definitive purchase, underwriting or similar agreement, will be validly issued, fully paid and nonassessable.

3. Upon completion of all Authorizing Proceedings relating to the Securities that are Warrants and the due execution, authentication and delivery of documents representing such Warrants and any related Warrant Agreements, and assuming that at the time of any offering or sale of such Warrants, the Company shall have such number of shares of Common Stock and/or shares of Preferred Stock as are issuable upon exercise of such Warrants authorized and available for issuance, the Warrants will be duly authorized and, when and if delivered against payment therefor in accordance with the applicable definitive purchase, underwriting or similar agreement, will be valid and binding obligations of the Company enforceable against the Company in accordance with their respective terms.

4. Upon completion of all Authorizing Proceedings relating to Securities that are Units and the due execution, authentication and delivery of documents representing such Units and any other documents related to such Units, and assuming that at the time of any offering or sale of such Units, the Company shall have such number of Securities authorized and available for issuance that are components of such Units or are issuable upon exercise, exchange or conversion of any components of such Units, the Units will be duly authorized and, when and if delivered against payment therefor in accordance with the applicable definitive purchase, underwriting or similar agreement, will be valid and binding obligations of the Company enforceable against the Company in accordance with their respective terms.

We assume no obligation to supplement this opinion if any applicable law changes after the date hereof or if we become aware of any fact that might change the opinion expressed herein after the date hereof.

We hereby consent to the filing of this opinion with the Commission as an exhibit to the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act and to the use of this firm's name under the caption "Legal Matters" in the Registration Statement, the related prospectus and any prospectus supplement included in the Registration

Statement. In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

As counsel to the Company, we have furnished this opinion in connection with the filing of the Registration Statement. This opinion is to be used only in connection with the offer and sale of the Securities while the Registration Statement is in effect. Except as otherwise set forth herein, this opinion may not be used, circulated, quoted or otherwise referred to for any purpose or relied upon by any other person without our express written permission.

Very truly yours,

/s/ Pepper Hamilton LLP
Pepper Hamilton LLP

Independent Registered Public Accounting Firm's Consent

We consent to the incorporation by reference in this Registration Statement of Pressure BioSciences, Inc. on Form S-3 of our report dated March 31, 2011, which includes an explanatory paragraph as to the Company's ability to continue as a going concern, with respect to our audit of the consolidated financial statements of Pressure BioSciences, Inc. and Subsidiary as of December 31, 2010 and for the year then ended, which report appears in the Prospectus, which is part of this Registration Statement. We also consent to the reference to our Firm under the heading "Experts" in such Prospectus.

/s/ Marcum LLP

Marcum LLP
Boston, Massachusetts
September 13, 2011

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statement on Form S-3 of Pressure BioSciences, Inc. of our report dated March 31, 2010, with respect to the consolidated financial statements of Pressure BioSciences, Inc. and Subsidiary as of December 31, 2009 and for the year then ended, which appears in the Annual Report on Form 10-K of Pressure BioSciences, Inc. for the year ended December 31, 2010.

We also consent to the reference to our Firm under the heading "Experts" in such Registration Statement.

/s/ UHY LLP

Houston, Texas
September 13, 2011