
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-8

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 Number)

14 Norfolk Avenue, South Easton, MA 02375

(Address of Principal Executive Offices) (Zip Code)

PRESSURE BIOSCIENCES, INC. 2005 EQUITY INCENTIVE PLAN

(Full Title of the Plan)

Richard T. Schumacher, President and Chief Executive Officer

Pressure BioSciences, Inc.

14 Norfolk Avenue

South Easton, MA 02375

(Name and Address of Agent For Service)

508-230-1828

(Telephone Number, including area code, of Agent For Service)

with a copy to:

Steven R. London, Esq.

Pepper Hamilton LLP

125 High Street

Oliver Street Tower, 15th Floor

Boston, MA 02110

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

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered	Proposed Maximum Offering Price Per Share(1)	Proposed Maximum Aggregate Offering Price(1)	Amount of Registration fee
Common Stock, \$.01 par value	300,000 (2) shares	\$ 1.38	\$414,000.00	\$ 29.52
Preferred Share Purchase Rights (3)(4)	300,000	—	—	—

- (1) Estimated solely for the purpose of determining the registration fee pursuant to Rule 457(c) and (h) under the Securities Act of 1933, as amended (the "Securities Act"), on the basis of the average high and low prices for the Registrant's common stock on the Nasdaq Capital Market on August 19, 2010.
- (2) Pursuant to Rule 416 under the Securities Act, this registration statement shall also cover such presently indeterminable number of additional shares of common stock which may become issuable under the Registrant's 2005 Equity Incentive Plan, as amended, in the event of a merger, consolidation, reorganization, recapitalization, stock dividend, stock split, stock combination, or other similar changes in the common stock.
- (3) The rights are attached to the Registrant's common stock pursuant to a Rights Agreement dated as of February 27, 2003, as amended, between the Registrant and Computershare Trust Company, Inc. The value attributable to the rights, if any, is reflected in the value of the common stock and the registration fee for the rights is included in the fee for the common stock.
- (4) The 300,000 rights registered by this registration statement represent each right that may be issued in connection with each share of common stock issuable upon exercise of options or pursuant to awards granted or to be granted under the Registrant's 2005 Equity Incentive Plan. Such presently indeterminable number of additional rights are also registered by this registration statement as may be issued in the event of a merger, consolidation, reorganization, recapitalization, stock dividend, stock split or other similar changes in the common stock. The rights are not separately transferable apart from the Registrant's common stock, nor are they exercisable until the occurrence of certain events. Accordingly, no independent value has been attributed to the rights registered hereunder.
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EXPLANATORY NOTE

This registration statement relates to the registration of additional securities of the same class as other securities for which a registration statement is effective relating to the Registrant's 2005 Equity Incentive Plan, as amended. Pursuant to General Instruction E of Form S-8, except as otherwise provided herein, this registration statement also incorporates by reference (i) the Registrant's registration statement on Form S-8 (Registration No. 333-128594) relating to the registration of an aggregate of 1,000,000 shares issuable under the Registrant's 2005 Equity Incentive Plan and (ii) the Registrant's registration statement on Form S-8 (Registration No. 333-155405) relating to the registration of an additional 500,000 shares issuable under the Registrant's 2005 Equity Incentive Plan. Following the registration of the additional 300,000 shares under this registration statement, a total of 1,800,000 shares will be registered under the 2005 Equity Incentive Plan.

PART I INFORMATION REQUIRED IN THE SECTION 10(A) PROSPECTUS

Item 1. Plan Information*

Item 2. Registrant's Information and Employee Plan Annual Information *

* The documents containing the information specified in Part I will be sent or given to Participants in the Plan as specified by Rule 428(b) (1) under the Securities Act of 1933, as amended (the "Securities Act"). In accordance with the Note of Part I of the Form S-8, such documents will not be filed with the Securities and Exchange Commission (the "SEC"), either as part of this registration statement or as a prospectus or prospectus supplement pursuant to Rule 424 under the Securities Act. These documents and the documents incorporated by reference pursuant to Item 3 of Part II of this registration statement, taken together, constitute the prospectus required by Section 10(a) of the Securities Act.

PART II INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The Registrant hereby incorporates by reference into this registration statement the following documents:

- (a) The Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2009 (the "Annual Report"), filed pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act").
 - (b) The Registrant's Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2010 and June 30, 2010.
 - (c) The Registrant's Current Reports on Form 8-K, filed with the SEC on March 24, 2010, March 31, 2010, April 23, 2010, April 29, 2010, July 1, 2010, July 16, 2010, and July 30, 2010.
 - (d) The description of (i) the Registrant's common stock contained in the Registrant's registration statement on Form 8-A (File No. 0-21615), filed pursuant to the Exchange Act with the Securities and Exchange Commission on October 26, 1996; and (ii) the Registrant's preferred share purchase rights contained in the Registrant's registration statement on Form 8-A (File No. 0-21615), filed pursuant to the Exchange Act with the Securities and Exchange Commission on March 12, 2003, including any amendments or reports filed for the purposes of updating such descriptions.
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Current Reports on Form 8-K containing only Regulation FD or Regulation G disclosure furnished under Items 2.02 and 7.01 of Form 8-K and any related exhibits furnished under Item 9.01 of Form 8-K are not incorporated herein by reference.

All documents filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act (other than Current Reports on Form 8-K containing only Regulation FD or Regulation G disclosure furnished under Items 2.02 and 7.01 of Form 8-K and any related exhibits furnished under Item 9.01 of Form 8-K, unless otherwise indicated therein), subsequent to the date hereof and prior to the filing of a post-effective amendment which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold, shall be deemed hereby incorporated by reference in this registration statement and to be a part hereof from the date of filing of such documents.

Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this registration statement to the extent that a statement contained herein or in any subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

Not applicable.

Item 6. Indemnification of Directors and Officers.

Section 8.51 of the Massachusetts Business Corporation Act, under which the Registrant is governed, provides that a corporation may indemnify a director who is a party to a proceeding because he is a director against liability incurred in the proceeding if he conducted himself in good faith and he reasonably believed that his conduct was in the best interests of the corporation or that his conduct was at least not opposed to the best interests of the corporation, and, in the case of any criminal proceeding, he had no reasonable cause to believe his conduct was unlawful. Section 8.52 of the Massachusetts Business Corporation Act requires corporations to indemnify any director who was wholly successful in the defense of any proceeding to which he was a party because he was a director of the corporation against reasonable expenses incurred by him in connection with the proceeding.

Section 8.56 of the Massachusetts Business Corporation Act provides that a corporation may indemnify and advance expenses to an officer of the corporation who is a party to a proceeding because he is an officer of the corporation to the same extent as a director, and, if he 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 the 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.

The Registrant's Amended and Restated By-laws, as amended ("By-laws"), include provisions to permit the indemnification of the Registrant's 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 duties and to discharge the duties of his office in good faith and in the reasonable belief that his action was in, or not opposed to, the best interest of the Registrant, and with respect to any criminal action, do not have reasonable cause to believe that his conduct was unlawful. The Registrant's By-laws also include a provision permitting the Registrant's to advance expenses to an officer or director incurred by such officer or director in connection with certain proceedings, upon receipt of an undertaking to repay the amount advanced, which undertaking may be accepted by the board of directors without reference to the financial ability of such officer or director to make repayment.

Section 2.02 of the Massachusetts Business Corporation Act provides that the articles of organization of a corporation may contain a provision eliminating or limiting the personal liability of a director to the corporation for monetary damages for breach of a 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 (1) for any breach of the director's duty of loyalty to the corporation or its shareholders, (2) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (3) for improper distributions under Sections 6.40 of the Massachusetts Business Corporation Act or (4) for any transaction from which the director derived an improper personal benefit. The Registrant's Restated Articles of Organization, as amended (the "Articles") contains such a provision. This provision of the Articles will limit the remedies available to a stockholder in the event of breaches of any director's duties to such stockholder or to the Registrant.

The Articles provide that the Registrant may, either in its By-laws or by contract, provide for the indemnification of directors, officers, employees and agents, by whomever elected or appointed, to the full extent permitted by law as the law may be amended from time to time.

The Registrant enters into indemnification agreements with its officers and directors from time to time. The indemnification agreements provide that the Registrant will pay certain amounts incurred by a director or officer in connection with any civil or criminal action or proceeding and specifically including actions by or in the name of the Registrant (derivative suits) where the individual's involvement is by reason of the fact that he is or was a director or officer. Such amounts include, to the maximum extent permitted by law, attorney's fees, judgments, civil or criminal fines, settlement amounts and other expenses customarily incurred in connection with legal proceedings. Under the indemnification agreements, a director or officer will not receive indemnification if he is found not to have acted in good faith in the reasonable belief that his action was in the best interests of the Registrant.

Section 8.57 of the Massachusetts Business Corporation Act also contains provisions authorizing a corporation to obtain insurance on behalf of any director or officer of the corporation against liabilities, whether or not the corporation would have the power to indemnify against such liabilities. The Registrant maintains directors and officers liability insurance for the benefit of its directors and certain of its officers.

Item 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

Exhibit No.	Description
4.1*	Restated Articles of Organization of the Registrant, filed as Exhibit 3.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-10759).*
4.2*	Articles of Amendment to Restated Articles of the Organization of the Registrant, filed as Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2004 (File No. 0-21615).*
4.3*	Articles of Amendment to Restated Articles of Organization of the Company, as amended, filed as exhibit 3.3 to the Registrant's Current Report on Form 8-K filed with the SEC on November 19, 2009 (File No. 0-21615).
4.4*	Amended and Restated Bylaws of the Registrant, filed as Exhibit 3.2 to the Registrant's Registration Statement on Form S-1 (File No. 333-10759).*
4.5*	Amendment to Amended and Restated Bylaws of the Registrant, filed as Exhibit 3.3 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2002 (File No. 0-21615).*
4.6*	Specimen Certificate for the Shares of the Registrant's Common Stock, filed as Exhibit 4.1 to the Registrant's Annual Report on Form 10-KSB for the year ended December 31, 2004 (File No. 0-21615).*
4.7*	Description of Capital Stock (contained in the Registrant's Restated Articles of Organization, as amended, filed as Exhibit 3.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-10759)).*
4.8*	Rights Agreement dated as of February 27, 2003 between the Registrant and Computershare Trust Company, Inc., filed as Exhibit 4 to the Registrant's Current Report on Form 8-K (File No. 0-21615) filed with the SEC on March 12, 2003.*
4.9*	Amendment No. 1 to Rights Agreement dated April 16, 2004 between the Registrant and Computershare Trust Company, Inc., filed as Exhibit 4 to the Registrant's Current Report on Form 8-K (File No. 0-21615) filed with the SEC on April 16, 2004.*
5.1	Legal Opinion of Pepper Hamilton LLP.
23.1	Consent of UHY LLP.
23.2	Consent of Pepper Hamilton LLP (included in its legal opinion filed as Exhibit 5.01 to this registration statement).
24.1	Power of Attorney (included on the signature page of this registration statement).
99.1*	Registrant's 2005 Equity Incentive Plan, filed as Exhibit 99.01 to the Registrant's Registration Statement on Form S-8 (Reg. No. 333-128594) filed with the SEC on September 26, 2005.*
99.2*	Amendment No. 1 to the Registrant's 2005 Equity Incentive Plan, filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 333-21615) filed with the SEC on September 29, 2008.*
99.3*	Amendment No. 2 to the Registrant's 2005 Equity Incentive Plan, filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 0-21615) for the quarter ended June 30, 2010.

* Not filed herewith. In accordance with Rule 411(c) promulgated pursuant to the Securities Act of 1933, as amended, reference is made to the documents previously filed with the Securities and Exchange Commission, which documents are hereby incorporated by reference.

Item 9. Required Undertakings

The undersigned Registrant hereby undertakes:

Item 512(a) of Regulation S-K

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

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

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement;

Provided, however, that paragraphs (1)(i) and (1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the Registrant pursuant to Section 13 or 15(d) of the Exchange Act that are incorporated by reference in this Registration Statement.

(2) That, for the purpose of determining any liability under the Securities Act 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.

Item 512(b) of Regulation S-K

The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) 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.

Item 512(h) of Regulation S-K

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC 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.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the Town of South Easton, Commonwealth of Massachusetts, on the 20th day of August, 2010.

PRESSURE BIOSCIENCES, INC.

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

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that the person whose signature appears below constitutes and appoints Richard T. Schumacher, with full power to act alone, his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any or all amendments (including post-effective amendments) to this registration statement, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, and full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his or her substitutes, may lawfully do or cause to be done by virtue hereof.

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

Signature	Title	Date
<i>/s/ R. Wayne Fritzsche</i> R. Wayne Fritzsche	Director and Chairman of the Board	August 20, 2010
<i>/s/ Richard T. Schumacher</i> Richard T. Schumacher	Director, President and Chief Executive Officer (Principal Executive Officer)	August 20, 2010
<i>/s/ Gregory G. Freitag</i> Gregory G. Freitag	Director	August 20, 2010
<i>/s/ Alan I. Goldberg</i> Alan I. Goldberg	Director	August 20, 2010
<i>/s/ J. Donald Payne</i> J. Donald Payne	Director	August 20, 2010
<i>/s/ Alan D. Rosenson</i> Alan D. Rosenson	Director	August 20, 2010
<i>/s/ Dr. Calvin A. Saravis</i> Dr. Calvin A. Saravis	Director	August 20, 2010

INDEX TO EXHIBITS

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99.3*	Amendment No. 2 to the Registrant's 2005 Equity Incentive Plan, filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 0-21615) for the quarter ended June 30, 2010.

* Not filed herewith. In accordance with Rule 411(c) promulgated pursuant to the Securities Act of 1933, as amended, reference is made to the documents previously filed with the Securities and Exchange Commission, which documents are hereby incorporated by reference.

EXHIBIT 5.1

LEGAL OPINION OF PEPPER HAMILTON LLP

August 20, 2010

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

RE: Pressure BioSciences, Inc. Registration Statement on Form S-8

Ladies and Gentlemen:

We are general counsel to Pressure BioSciences, Inc., a Massachusetts corporation (the "Company"). We have been asked to deliver this opinion in connection with the preparation and filing with the Securities and Exchange Commission under the Securities Act of 1933, as amended, of a Registration Statement on Form S-8 (the "Registration Statement") relating to 300,000 shares of the Company's Common Stock, \$.01 par value (the "Shares"), and 300,000 preferred share purchase rights (the "Rights").

The Shares are issuable pursuant to awards granted under the Company's 2005 Equity Incentive Plan, as amended (the "2005 Plan"). The 300,000 Rights being registered pursuant to the Registration Statement represent one Right that may be issued in connection with each of the Shares issuable under the 2005 Plan.

In connection with this opinion, we have examined the following documents (collectively, the "Documents"):

1. a copy of the Restated Articles of Incorporation, as amended, of the Company as in effect on the date hereof;
2. a copy of the Amended and Restated Bylaws of the Company, as amended and in effect on the date hereof;
3. a Secretary's Certificate certifying certain proceedings of stockholders and directors of the Company;
4. the 2005 Plan;
5. the Rights Agreement dated February 27, 2003 between the Company and Computershare Trust Company, Inc. ("Computershare"), as amended by Amendment No. 1 to the Rights Agreement dated April 16, 2004 between the Company and Computershare (the "Rights Agreement"); and
6. the Registration Statement.

For purposes of this opinion, we have assumed without any investigation: (1) the legal capacity of each natural person; (2) the genuineness of each signature; (3) the completeness of each document submitted to us as an original and the conformity with the original of each document submitted to us as a copy; and (4) the completeness, accuracy and proper indexing of all governmental records.

We have not, except as specifically noted herein, 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.

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.

Our opinions hereafter expressed 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.

Based upon and subject to the foregoing, we are of the opinion that (i) the Shares have been duly authorized and, when issued in accordance with the terms and conditions of the 2005 Plan, will be validly issued, fully paid and nonassessable and (ii) the Rights have been duly authorized and, when issued in accordance with the terms and conditions of the Rights Agreement and with the terms and conditions of the 2005 Plan, will be validly issued, fully paid and nonassessable.

We hereby consent to the filing of this opinion as Exhibit 5.01 to the Registration Statement and to the reference to our firm wherever it appears in the Registration Statement.

Very truly yours,

Pepper Hamilton LLP

Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (Registration No. 333-_____) of Pressure Biosciences, Inc. of our report dated March 31, 2010, relating to the consolidated financial statements of Pressure Biosciences, Inc. appearing in its Annual Report on Form 10-K for the year ended December 31, 2009.

/s/ UHY LLP

Houston, Texas
August 20, 2010
