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

FORM 8-K

CURRENT REPORT

PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Date of Report: April 11, 2008
(*Date of earliest event reported*)

NOVELOS THERAPEUTICS, INC.
(*Exact name of registrant as specified in its charter*)

Delaware	**333-119366**	**04-3321804**
(State or other jurisdiction of incorporation)	*(Commission File Number)*	*(IRS Employer Identification Number)*

One Gateway Center, Suite 504
Newton, MA 02458
(*Address of principal executive offices*)

(617) 244-1616
(*Registrant's telephone number, including area code*)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

ITEM 1.01 ENTRY INTO A MATERIAL DEFINITIVE AGREEMENT

Securities Purchase Agreement

On April 11, 2008, pursuant to a securities purchase agreement with accredited investors dated March 26, 2008, as amended on April 9, 2008 (the "Purchase Agreement"), we sold 113.5 shares of a newly created series of our preferred stock, designated "Series D Convertible Preferred Stock", par value $0.00001 per share (the "Series D Preferred Stock") and issued warrants to purchase 4,365,381 shares of our common stock for an aggregate purchase price of $5,675,000 (the "Series D Financing"). Pursuant to the Purchase Agreement, from and after the closing, Xmark Opportunity Fund, L.P., Xmark Opportunity Fund, Ltd. and Xmark JV Investment Partners, LLC (collectively, the "Xmark Entities"), will have the right to designate one member to our Board of Directors. This right shall last until such time as the Xmark Entities no longer hold at least one-third of the Series D Preferred Stock issued to them at closing. In addition, the Xmark Entities, Caduceus Master Fund Limited, Caduceus Capital II, L.P., Summer Street Life Sciences Hedge Fund Investors, LLC, UBS Eucalyptus Fund, LLC and PW Eucalyptus Fund, Ltd. (collectively, the "Lead Investors") will have the right to designate one observer to attend all meetings of our Board of Directors, committees thereof and access to all information made available to members of the Board. This right shall last until such time as the Lead Investors no longer hold at least one-third of the Series D Preferred Stock issued to them at closing.

In connection with the closing of the Series D Financing, the holders of our Series B convertible preferred stock (the "Series B Preferred Stock"), exchanged all 300 of their shares of Series B Preferred Stock for 300 shares of Series D Preferred Stock. Following the exchange, no shares of Series B Preferred Stock are outstanding. The rights and preferences of the Series D Preferred Stock are substantially the same as the Series B Preferred Stock, however the conversion price of the Series D Preferred Stock is $0.65. In addition, the holders of Series B Preferred Stock waived liquidated damages that had accrued from September 7, 2007 through the closing date as a result of our failure to register for resale 100% of the shares of common stock underlying the Series B Preferred Stock and warrants.

Series D Preferred Stock

The shares of Series D Preferred Stock are convertible into shares of our common stock any time after issuance at the option of the holder at $0.65 per share of common stock. If there is an effective registration statement covering the shares of common stock underlying the Series D Preferred Stock and the VWAP, as defined in the Series D Certificate of Designations, of our common stock exceeds $2.00 for 20 consecutive trading days, then the outstanding Series D Preferred Stock will automatically convert into common stock at the conversion price then in effect. The conversion price will be subject to adjustment for stock dividends, stock splits or similar capital reorganizations.

The holders of Series D Preferred Stock are entitled to vote on all matters on which the holders of common stock are entitled to vote. The number of votes to which each holder of Series D Preferred Stock is entitled is equal to the number of shares of common stock that would be issued to such holder if the Series D Preferred Stock had been converted at the record date for the meeting of stockholders.

The Series D Preferred Stock has an annual dividend rate of 9%, payable semi-annually on June 30 and December 31. Such dividends may be paid in cash or in registered shares of our common stock at our option, subject to certain conditions.

The Series D Preferred Stock ranks senior to all other outstanding series of preferred stock and common stock as to the payment of dividends and the distribution of assets upon voluntary or involuntary liquidation, dissolution or winding up of our affairs. The Series D preferred stockholders will be entitled to receive first, $50,000 per share and all accrued and unpaid dividends. They are then entitled to participate with the holders of the common stock in the distribution of remaining assets on a pro rata basis. If, upon any winding up of our affairs, assets available to pay the holders of Series D Preferred Stock are not sufficient to permit the payment in full, then all assets will be distributed to the holders of Series D Preferred Stock on a pro rata basis. If we sell, lease or otherwise transfers substantially all of our assets, consummate a business combination in which we are not the surviving corporation or, we are the surviving corporation, if the holders of a majority of the common stock immediately before the transaction do not hold a majority of common stock immediately after the transaction, in one or a series of events, change the majority of the members of the board of directors, or if any person or entity (other than the holders of Series D Preferred Stock) acquires more than 50% of our outstanding stock, then the holders of Series D Preferred Stock are entitled to receive the same liquidation preference as described above, except that after receiving $50,000 per preferred share and any accrued but unpaid dividends, they are not entitled to participate with the common stock in a distribution of the remaining assets

For as long as any shares of Series D Preferred Stock remain outstanding, we are prohibited from (i) paying dividends to our common stockholders, (ii) amending our certificate of incorporation, (iii) issuing any equity security or any security convertible into or exercisable for any equity security at a price of $0.65 or less or with rights senior to the Series D Preferred Stock (except for certain exempted issuances), (iv) increasing the number of shares of Series D Preferred Stock or issuing any additional shares of Series D Preferred Stock, (v) selling or otherwise disposing of all or substantially all our assets or intellectual property or entering into a merger or consolidation with another company unless we are the surviving corporation, the Series D Preferred Stock remains outstanding and there are no changes to the rights and preferences of the Series D Preferred Stock, (vi) redeeming or repurchasing any capital stock other than Series D Preferred Stock, (vii) incurring any new debt for borrowed money in excess of $500,000 and (viii) changing the number of our directors. The Company is required to reserve, out of authorized shares of common stock, 100% of the number of shares of common stock into which Series D Preferred Stock is convertible.

Common Stock Purchase Warrants

The common stock purchase warrants issued to the investors are exercisable for an aggregate of 4,365,381 shares of our common stock at an exercise price of $0.65 and expire in April 2013. If after the six-month anniversary of the date of issuance of the warrant there is no effective registration statement registering, or no current prospectus available for, the resale of the shares issuable upon the exercise of the warrants, the holder may conduct a cashless exercise whereby the holder may elect to pay the exercise price by having us withhold, upon exercise, shares having a fair market value equal to the applicable aggregate exercise price. In the event of a cashless exercise, we would receive no proceeds from the sale of our common stock in connection with such exercise.

The warrant exercise price and/or number of warrants is subject to adjustment only for stock dividends, stock splits or similar capital reorganizations so that the rights of the warrant holders after such event will be equivalent to the rights of warrant holders prior to such event.

If there is an effective registration statement covering the shares underlying the warrants and the VWAP, as defined in the warrant, of our common stock exceeds $2.50 for 20 consecutive trading days, then on the 31st day following the end of such period any remaining warrants for which a notice of exercise was not delivered shall no longer be exercisable and shall be converted into a right to receive $.01 per share.

Registration Rights Agreement

We have entered into a registration rights agreement with the investors which requires us to file with the Securities and Exchange Commission no later than 5 business days following the six-month anniversary of the closing of the Series D Financing, a registration statement covering the resale of (i) a number of shares of common stock equal to 100% of the shares issuable upon conversion of the Series D Preferred Stock (excluding 12,000,000 shares of common stock issuable upon conversion of the Series D Preferred Stock that were included on a prior registration statement), (ii) a number of shares of common stock equal to 100% of the shares issuable upon exercise of the warrants issued in the Series D Financing and (iii) 7,500,000 shares of common stock issuable upon exercise of warrants dated May 2, 2007 held by the investors. We are required to use our best efforts to have the registration statement declared effective and keep the registration statement continuously effective under the Securities Act until the earlier of the date when all the registrable securities covered by the registration statement have been sold or the second anniversary of the closing. In the event we fail to file the registration statement within the timeframe specified by the Registration Rights Agreement, we are required to pay to the investors liquidated damages equal to 1.5% per month (pro-rated on a daily basis for any period of less than a full month) of the aggregate purchase price of the Series D Preferred Stock and warrants until we file the delinquent registration statement. We will be allowed to suspend the use of the registration statement for not more than 15 consecutive days or for a total of not more than 30 days in any 12 month period.

Placement Agent Fee

Following the closing of the preferred stock and warrant financing we are obligated to pay Rodman & Renshaw LLC ("Rodman") a cash fee of $100,000.

Amendments to Prior Warrants and Registration Rights Agreement

At the closing, we entered into an amendment to the registration rights agreement dated May 2, 2007 with the holders of our Series B Preferred Stock to revise the definition of registrable securities under the agreement to only include the 12,000,000 shares of common stock that were included on a prior registration statement and to extend our registration obligations under the agreement by one year. In addition, in connection with the closing, we amended the warrants to purchase common stock issued in connection with the sale of Series B Preferred Stock to conform the terms of those warrants to the terms of the warrants issued in the Series D Financing.

The discussion in this current report is only a summary and is qualified in its entirety by reference to the Certificate of Designations, Preferences and Rights of Series D Convertible Preferred Stock, Certificate of Elimination of Series A 8% Cumulative Convertible Preferred Stock, Form of Common Stock Purchase Warrant, Securities Purchase Agreement, Amendment to the Securities Purchase Agreement, the Registration Rights Agreement, the Amendment to Registration Rights Agreement and the Warrant Amendment Agreement, which are included as Exhibits 4.1, 4.2, 4.3, 10.1, 10.2, 10.3, 10.4 and 10.5, respectively, to this current report on Form 8-K and are incorporated by reference in this Item.

ITEM 3.02 UNREGISTERED SALES OF EQUITY SECURITIES

The sale of preferred stock and warrants described in Item 1.01 above was exempt from registration under Section 4(2) of the Securities Act of 1933, as amended.

ITEM 3.03 MATERIAL MODIFICATION TO RIGHTS OF SECURITY HOLDERS

Effective April 4, 2008 our certificate of incorporation was amended to eliminate the Certificate of Designations, Preferences and Rights of Series A 8% Cumulative Convertible Preferred Stock. There had not been any shares of Series A preferred stock outstanding since April 2007.

Effective April 10, 2008 our certificate of incorporation was amended to include the Certificate of Designations, Preferences and Rights of Series D Convertible Preferred Stock as described in Item 1.01 above.

As described above, in connection with the closing of the Series D Financing, the holders of our Series B Preferred Stock exchanged all 300 shares of their Series B Preferred Stock for 300 shares of Series D Preferred Stock. In connection with this exchange, the holders of our Series C preferred stock consented and agreed that the Series D preferred stock would be senior to the Series C Preferred Stock with respect to the payment of dividends and liquidation preference.

ITEM 7.01 REGULATION FD DISCLOSURE

A copy of the press release issued by us on April 11, 2008 announcing the signing of the closing of the sale of Series D Preferred Stock is filed as Exhibit 99.1 and is incorporated by reference.

ITEM 9.01 FINANCIAL STATEMENTS AND EXHIBITS

(c) Exhibits

Number	Title
4.1	Certificate of Designations, Preferences and Rights of Series D Convertible Preferred Stock of Novelos Therapeutics, Inc.
4.2	Certificate of Elimination Series A 8% Cumulative Convertible Preferred Stock of Novelos Therapeutics, Inc.
4.3	Form of Common Stock Purchase Warrant
10.1	Securities Purchase Agreement dated March 26, 2008
10.2	Amendment to the Securities Purchase Agreement dated April 9, 2008
10.3	Registration Rights Agreement dated April 11, 2008
10.4	Amendment to Registration Rights Agreement dated April 11, 2008
10.5	Warrant Amendment Agreement dated April 11, 2008
99.1	Press Release dated April 11, 2008 entitled “Novelos Therapeutics Closes $5.7 Million Private Placement”

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Dated: April 14, 2008

NOVELOS THERAPEUTICS, INC.

By: /s/ Harry S. Palmin
Harry S. Palmin
President and Chief Executive Officer

EXHIBIT INDEX

Number	Title
4.1	Certificate of Designations, Preferences and Rights of Series D Convertible Preferred Stock of Novelos Therapeutics, Inc.
4.2	Certificate of Elimination Series A 8% Cumulative Convertible Preferred Stock of Novelos Therapeutics, Inc.
4.3	Form of Common Stock Purchase Warrant
10.1	Securities Purchase Agreement dated March 26, 2008
10.2	Amendment to the Securities Purchase Agreement dated April 9, 2008
10.3	Registration Rights Agreement dated April 11, 2008
10.4	Amendment to Registration Rights Agreement dated April 11, 2008
10.5	Warrant Amendment Agreement dated April 11, 2008
99.1	Press Release dated April 11, 2008 entitled “Novelos Therapeutics Closes $5.7 Million Private Placement”

CERTIFICATE OF DESIGNATIONS, PREFERENCES AND RIGHTS

OF

SERIES D CONVERTIBLE PREFERRED STOCK

OF

NOVELOS THERAPEUTICS, INC.

(Pursuant to Section 151 of the
Delaware General Corporation Law)

Novelos Therapeutics, Inc. (the "*Corporation*"), a corporation organized and existing under the laws of the State of Delaware, hereby certifies that, pursuant to authority conferred on its Board of Directors (the "*Board*") by the Certificate of Incorporation of the Corporation, the following resolution was adopted by the Board at a meeting of the Board duly held on March 26, 2008, which resolution remains in full force and effect on the date hereof:

RESOLVED, that there is hereby established a series of the Corporation's authorized Preferred Stock (the "*Preferred Stock*") having a par value of $0.00001 per share, which series shall be designated as "Series D Convertible Preferred Stock" (the "*Series D Preferred Stock*") and shall consist of Four Hundred Twenty (420) shares. The shares of Series D Preferred Stock shall have the voting powers, designations, preferences and other special rights, and qualifications, limitations and restrictions thereof set forth below:

1. *Certain Definitions*. As used herein, the following terms shall have the following meanings:

(a) "*Affiliate*" shall mean, with respect to any Person, any other Person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified Person. For the purposes of this definition, "*control*," when used with respect to any Person, means the power to direct the management and policies of such Person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise; and the terms "*affiliated*," "*controlling*" and "*controlled*" have meanings correlative to the foregoing.

(b) "*Business Day*" shall mean a day, other than a Saturday or Sunday, on which banks in New York City are open for the general transaction of business.

(c) "*Fair Market Value*" shall mean, with respect to any listed security, its Market Price, and with respect to any property or assets other than cash or listed securities, the fair value thereof determined in good faith by the Board and the Requisite Holders.

(d) "*Initial Issue Date*" shall mean the date that shares of Series D Preferred Stock are first issued by the Corporation.

(e) "*Lead Series D Preferred Investors*" shall mean, collectively, Xmark Opportunity Fund, L.P., a Delaware limited partnership ("*Xmark LP*"), Xmark Opportunity Fund, Ltd., a Cayman Islands exempted company ("*Xmark Ltd*"), Xmark JV Investment Partners, LLC, a Delaware limited liability company ("*Xmark LLC*"), Caduceus Master Fund Limited, a Bermuda corporation ("*Caduceus Master*"), Caduceus Capital II, L.P., a Delaware limited partnership ("*Caduceus Capital*"), Summer Street Life Sciences Hedge Fund Investors, LLC a Delaware limited liability company ("*Summer Street*"), UBS Eucalyptus Fund, L.L.C., a Delaware registered investment company ("*UBS Eucalyptus*") and PW Eucalyptus Fund, Ltd., a Cayman Islands investment company ("*PW Eucalyptus*").

(f) "*Market Price*", as of a particular date (the "*Valuation Date*"), shall mean the following with respect to any class of listed securities: (A) if such security is then listed on a national stock exchange, the Market Price shall be the closing sale price of one share of such security on such exchange on the last trading day prior to the Valuation Date, provided that if such security has not traded in the prior ten (10) trading sessions, the Market Price shall be the average closing price of such security in the most recent ten (10) trading sessions during which such security has traded; (B) if such security is then included in the OTC Bulletin Board, the Market Price shall be the closing sale price of one share of such security on the OTC Bulletin Board on the last trading day prior to the Valuation Date or, if no such closing sale price is available, the average of the high bid and the low ask price quoted on the OTC Bulletin Board as of the end of the last trading day prior to the Valuation Date, provided that if such stock has not traded in the prior ten (10) trading sessions, the Market Price shall be the average closing price of one share of such security in the most recent ten (10) trading sessions during which such security has traded; or (C) if such security is then included in the "pink sheets," the Market Price shall be the closing sale price of one share of such security on the "pink sheets" on the last trading day prior to the Valuation Date or, if no such closing sale price is available, the average of the high bid and the low ask price quoted on the "pink sheets" as of the end of the last trading day prior to the Valuation Date, provided that if such stock has not traded in the prior ten (10) trading sessions, the Market Price shall be the average closing price of one share of such security in the most recent ten (10) trading sessions during which such security has traded.

(g) "*OrbiMed Entities*" shall mean, collectively, Caduceus Master, Caduceus Capital, Summer Street, UBS Eucalyptus and PW Eucalyptus.

(h) "*Person*" shall mean any individual, partnership, company, limited liability company, joint venture, association, joint-stock company, trust, unincorporated organization, government or agency or political subdivision thereof, or other entity.

(i) "*Principal Market*" means the Trading Market on which the Common Stock is primarily listed on and quoted for trading, which, as of the Initial Issue Date means the OTC Bulletin Board ("*OTCBB*").

(j) "*Requisite Holders*" shall mean the holders of at least a majority of the then outstanding shares of Preferred Stock which majority must include (i) the Xmark Entities, provided such Xmark Entities have purchased an aggregate of $1,480,000 of Series D Preferred Stock and hold at least one-third of the Series D Preferred Stock issued to the Xmark Entities and (ii) the OrbiMed Entities, provided such OrbiMed Entities have purchased an aggregate of $1,813,750 of Series D Preferred Stock and hold at least one-third of the Series D Preferred Stock issued to the OrbiMed Entities (appropriately adjusted for any stock dividend, stock split, reverse stock split, reclassification, stock combination or other recapitalization occurring after the date hereof).

(k) "*SEC*" shall mean the U.S. Securities and Exchange Commission.

(l) "*Series D Stated Value*" shall mean, with respect to each share of Series D Preferred Stock, Fifty Thousand Dollars ($50,000), which Series D Stated Value shall be subject to appropriate adjustment from time to time in the event of any stock dividend, stock split, reverse stock split, reclassification, stock combination or other recapitalization affecting the Series D Preferred Stock.

(m) "*Trading Day*" means any day on which the Common Stock is purchased and sold on the Principal Market.

(n) "*VWAP*" on a Trading Day means the volume weighted average price of the Common Stock for such Trading Day on the Principal Market as reported by Bloomberg Financial Markets or, if Bloomberg Financial Markets is not then reporting such prices, by a comparable reporting service of national reputation selected by the Requisite Holders and reasonably satisfactory to the Corporation. If VWAP cannot be calculated for the Common Stock on such Trading Day on any of the foregoing bases, then the Corporation shall submit such calculation to an independent investment banking firm of national reputation reasonably acceptable to the Requisite Holders, and shall cause such investment banking firm to perform such determination and notify the Corporation and the Requisite Holders of the results of determination no later than two (2) Business Days from the time such calculation was submitted to it by the Corporation. All such determinations shall be appropriately adjusted for any stock dividend, stock split or other similar transaction during such period.

(o) "*Xmark Entities*" shall mean, collectively, Xmark LP, Xmark Ltd. and Xmark LLC.

2. *Designation; Preference and Ranking*. The Series D Preferred Stock shall consist of Four Hundred Twenty (420) shares. The preferences of each share of Series D Preferred Stock with respect to dividend payments and distributions of the Corporation's assets upon voluntary or involuntary liquidation, dissolution or winding up of the Corporation shall be equal to the preferences of every other share of Series D Preferred Stock from time to time outstanding in every respect. Notwithstanding the terms and conditions of any series of Preferred Stock now or hereafter existing providing that the Series D Preferred Stock shall rank junior or senior thereto, the Series D Preferred Stock shall rank senior to all other outstanding series of Preferred Stock and senior to the Common Stock, par value $0.00001 per share (the "*Common Stock*"), of the Corporation as to the payment of dividends and the distribution of assets upon voluntary or involuntary liquidation, dissolution or winding up of the Corporation. No other equity or equity-linked securities shall be permitted to rank pari passu with the Series D Preferred Stock without express written approval of the Requisite Holders.

3. *Dividend Rights*. (a) Each holder of Series D Preferred Stock, in preference and priority to the holders of all other classes of stock, shall be entitled to receive, with respect to each share of Series D Preferred Stock then outstanding and held by such holder of Series D Preferred Stock, dividends, commencing from the date of issuance of such share of Series D Preferred Stock, at the rate of nine percent (9%) per annum of the Series D Stated Value (the "*Series D Preferred Dividends*"). The Series D Preferred Dividends shall be cumulative, whether or not earned or declared, and shall be paid semi-annually in arrears beginning on June 30, 2008 and then on the last day of June and December in each year. The Series D Preferred Dividends shall be paid to each holder of Series D Preferred Stock in cash, out of legally available funds or at the Corporation's election, but only if the Common Stock underlying such dividends are, on the payment date, subject to an effective Registration Statement (as defined in the Registration Rights Agreement), in Common Stock, based on the lesser of (x) the Conversion Price (as defined below) then in effect, and (y) the Fair Market Value of the Common Stock on the Business Day preceding the payment date. If shares of Series D Preferred Stock are transferred in between the scheduled Series D Preferred Stock dividend payment dates, each of the transferor and transferee of the Series D Preferred Stock are entitled to their respective pro rata portion of such Series D Preferred Dividends as of the date of transfer. Any election by the Corporation to pay dividends in cash or shares of Common Stock shall be made uniformly with respect to all outstanding shares of Series D Preferred Stock for a given dividend period.

(b) No dividends shall be paid on any Common Stock of the Corporation or any other capital stock of the Corporation during any fiscal year of the Corporation until all Series D Preferred Dividends (with respect to the current fiscal year and all prior fiscal years) shall have been paid, or declared and set apart for payment, when due to the holders of Series D Preferred Stock.

(c) In the event that the Corporation shall at any time pay a dividend on the Common Stock (other than a dividend payable solely in shares of Common Stock) or any other class or series of capital stock of the Corporation (except for Series C Preferred Stock), the Corporation shall, at the same time, pay to each holder of Series D Preferred Stock a dividend equal to the dividend that would have been payable to such holder if the shares of Series D Preferred Stock held by such holder had been converted into Common Stock on the date of determination of holders of Common Stock entitled to receive such dividends, subject to the limitations on conversion set forth in Sections 6(l) below.

4. ***Liquidation Rights***. (a) In the event of any liquidation, dissolution or winding up of the Corporation, whether voluntary or involuntary, the holders of Series D Preferred Stock shall be entitled to receive, on a pro rata basis, prior and in preference to any distribution of any of the assets or surplus funds of the Corporation to the holders of the Common Stock, or any other class of capital stock of the Corporation, an amount equal to the Series D Stated Value for each share of Series D Preferred Stock then held by such holder, plus an amount equal to all declared but unpaid dividends, and all accrued but unpaid dividends set forth in Section 3(a) above, on each such share of Series D Preferred Stock (the "*Liquidation Preference Payment*"). If, upon the occurrence of any such liquidation, dissolution or winding up of the Corporation, the assets and funds to be distributed among the holders of Series D Preferred Stock shall be insufficient to permit the payment to such holders of the full Liquidation Preference Payment, then the entire assets and funds of the Corporation legally available for distribution shall be distributed ratably among the holders of Series D Preferred Stock in proportion to the Liquidation Preference Payment each such holder is entitled to receive, and no assets of the Corporation shall be distributed to the holders of the Common Stock or any other class or series of capital stock of the Corporation in respect of such Common Stock or such other stock unless and until the Liquidation Preference Payment payable to all holders of the Series D Preferred Stock has been paid in full.

(b) After payment of the full Liquidation Preference Payment to the holders of the Series D Preferred Stock as set forth in Section 4(a) above and subject to any other distribution that may be required with respect to any future series of Preferred Stock that may from time to time come into existence, the remaining assets and funds of the Corporation, if any, available for distribution to stockholders shall be distributed (i) in connection with a Liquidation Event pursuant to Section 4(c)(1) below, ratably among the holders of the Series D Preferred Stock, any other class or series of capital stock that participates with the Common Stock in the distribution of assets upon such Liquidation Event and the Common Stock, with the holders of the Series D Preferred Stock deemed to hold that number of shares of Common Stock into which such shares of Series D Preferred Stock are then convertible and (ii) in connection with a Liquidation Event pursuant to Sections 4(c)(2)-(5) below, ratably among the holders of Common Stock.

(c) The Requisite Holders, by written notice to the Corporation at least two (2) Business Days prior to the effective date thereof, may elect to treat any of the following transactions as a dissolution or winding up of the Corporation (each a "*Liquidation Event*") for the purposes of this Section 4: (1) any dissolution, winding up or liquidation of the Corporation; (2) any sale, lease or other transfer of substantially all of the Corporation's assets, in one or a series of transactions; (3) any merger, consolidation or similar business combination transaction, in which the Corporation is not the survivor or, if the Corporation is the survivor, then only if the holders of a majority of the Common Stock outstanding immediately before such transaction cease to own a majority of the Common Stock immediately after the transaction; (4) in one or a series of events, any change in the majority of the members of the Corporation's Board of Directors (the "*Board*"), unless the replacement directors were nominated by the majority of the Board immediately preceding such change; and (5) if any person or entity (other than the Investors) shall acquire or become the "beneficial owner" (as that term is defined in Rule 13d-3 of the Exchange Act) of more than 50% of the Corporation's outstanding stock.

(d) Distributions Other than Cash. Whenever the distributions provided for in this Section 4 shall be payable in property other than cash, the value of such distribution shall be the Fair Market Value thereof. All distributions (including distributions other than cash) made hereunder shall be made pro rata to the holders of Series D Preferred Stock, based on the number of shares of Series D Preferred Stock held by each such holder.

(e) Right to Convert. Nothing in this Section 4 shall affect in any way the right of each holder of Series D Preferred Stock to convert such shares at any time and from time to time into Common Stock in accordance with Section 6 hereof prior to the Liquidation Event.

5. ***Voting Rights; Protective Provisions; Covenants***.

(a) Except as otherwise provided herein or as required by applicable law, the holders of Series D Preferred Stock shall be entitled to vote on all matters on which the holders of Common Stock shall be entitled to vote, in the same manner and with the same effect as the holders of Common Stock, voting together with the holders of Common Stock as a single class. For this purpose, the holders of Series D Preferred Stock shall be given notice of any meeting of stockholders as to which the holders of Common Stock are given notice in accordance with the by-laws of the Corporation. As to any matter on which the holders of Series D Preferred Stock shall be entitled to vote, each holder of Series D Preferred Stock shall have a number of votes per share of Series D Preferred Stock held of record by such holder on the record date for the meeting of stockholders, if such matter is subject to a vote at a meeting of stockholders, or on the effective date of any written consent, if such matter is subject to a written consent of the stockholders without a meeting of stockholders, equal to the number of shares of Common Stock into which such share of Series D Preferred Stock is then convertible on such record date or effective date, as the case may be, in accordance with Section 6 hereof (subject to the limitations on conversion set forth in Sections 6(l) below).

(b) So long as all or any portion of the Series D Preferred Stock remain outstanding, without the prior written consent of the holders of the Requisite Holders, the Corporation shall not, directly or indirectly, take any of the following actions or agree to take any of the following actions:

(1) amend, alter or repeal (whether by merger, consolidation or otherwise) any provision of the Corporation's certificate of incorporation or the bylaws;

(2) create or authorize the creation of or issue any equity security, or any security convertible into or exercisable for any equity security, unless the per share price of such securities exceeds $0.65 in cash and such securities rank junior to the Series D Preferred Stock; provided that the Company may issue shares of Common Stock or options to employees, consultants, officers or directors of the Company pursuant to any stock or option plan duly adopted by a majority of the non-employee members of the Board of Directors of the Company or a majority of the members of a committee of non-employee directors established for such purpose;

(3) increase the number of authorized shares of Series D Preferred Stock or authorize the issuance of or issue any shares of Series D Preferred Stock (other than in connection with the payment of Series D Preferred Dividends in accordance with Section 3 hereof);

(4) sell, lease, convey, license or otherwise grant any rights with respect to, all or substantially all of its assets (and in the case of licensing, any material intellectual property) or business of the Corporation and shall not effect any merger or consolidation with any other company unless as a result thereof and after giving effect thereto (a) the Corporation shall be the surviving corporation, (b) the Series D Preferred Stock shall continue to be outstanding, (c) there shall be no change in the preference, privileges or other rights and restrictions with respect to the Series D Preferred Stock and (d) there shall not be created or thereafter exist as a result of thereof any new class of shares having preference over the Series D Preferred Stock with respect to dividends, distribution of assets or rights upon liquidation;

(5) except for a declaration or payment of dividends on the Series D Preferred Stock and the Series C Preferred Stock (at such time as all accrued and unpaid dividends on shares of Series D Preferred Stock then due have been paid), the Corporation shall not declare or pay any dividends on any common stock, preferred stock or other capital stock of the Corporation;

(6) except for a redemption or repurchase of the Series D Preferred Stock or the Warrants issued to the holders of Series D Preferred Stock on the Initial Issue Date, the Corporation shall not redeem or repurchase any of its capital stock (or security exercisable, convertible or exchangeable for any of its capital stock), except relating to settlement with departing employees pursuant to written employment agreements in effect on the Initial Issue Date;

(7) incur any debt for borrowed money in excess of $500,000; and

(8) change the number of directors which constitutes the Board of Directors.

6. *Conversion*. The holders of shares of Series D Preferred Stock shall have the following conversion rights:

(a) Optional Conversion. Subject to the terms and conditions of this Section 6, the holder of any share or shares of Series D Preferred Stock shall have the right, at its option at any time, to convert any such shares of Series D Preferred Stock into such number of fully paid and nonassessable shares of Common Stock as is obtained by: (i) multiplying the number of shares of Series D Preferred Stock to be converted by the Series D Stated Value and adding to such product the amount of any accrued but unpaid dividends with respect to such shares of Series D Preferred Stock to be converted; and (ii) dividing the result obtained pursuant to clause (i) above by the Series D Conversion Price then in effect.

(b) Mandatory Conversion. Subject to the terms and conditions of this Section 6, if the Registration Statement covering the resale of the shares of Common Stock underlying all of the Series D Preferred Stock is declared effective by the SEC, and is then effective and the daily VWAP of the Common Stock for twenty (20) consecutive trading days exceeds $2.00 per share (subject to appropriate adjustment from time to time in the event of any stock dividend, stock split, reverse stock split, reclassification, stock combination or other recapitalization affecting the Common Stock), then the outstanding Series D Preferred Stock shall automatically convert, together with accrued dividends, into Common Stock at the Conversion Price then in effect.

(c) The "*Series D Conversion Price*" shall initially be $0.65, and shall be subject to adjustment from time to time in accordance with the provisions of this Section 6.

(d) Conversion Procedures:

(1) Optional. The rights of conversion set forth in this Section 6 shall be exercised by any holder of Series D Preferred Stock by giving written notice to the Corporation that such holder elects to convert a stated number of shares of Series D Preferred Stock into Common Stock (the "*Optional Conversion Notice*") and by surrender of a certificate or certificates for the shares of Series D Preferred Stock so to be converted (or, in lieu thereof, by delivery of an appropriate lost stock affidavit in the event such certificate or certificates have been lost or destroyed) to the Corporation at its principal office (or such other office or agency of the Corporation as the Corporation may designate by notice in writing to the holders of Series D Preferred Stock) at any time on the date set forth in such notice (which date shall not be earlier than the Corporation's receipt of such notice), together with a statement of the name or names (with address) in which the certificate or certificates for shares of Common Stock shall be issued.

(2) Mandatory. In the case of mandatory conversion, the Corporation shall within five (5) Business Days of the occurrence of the events described in Section 6(b) notify the Corporation's transfer agent of such events ("*Mandatory Conversion Notice*") which shall identify the Conversion Price then in effect and direct the Transfer Agent to send certificates representing shares of Common Stock issued upon conversion to the holders of Series D Preferred Stock upon surrender of the certificates for shares of Series D Preferred Stock; and the Corporation shall provide a copy of such Mandatory Conversion Notice to each holder of Series D Preferred Stock. The Mandatory Conversion Notice shall state the Conversion Price then in effect and the address for the Company's transfer agent to send the new Common Stock upon surrender of the Series D Preferred Stock certificates to the Company's transfer agent and the address of the Company's transfer agent for the holder to send its Series D Preferred Stock certificate(s). Immediately upon the occurrence of the events described in Section 6(b), all shares of Series D Preferred Stock shall no longer be deemed to be outstanding and all rights with respect to such shares shall immediately cease and terminate, except only the right of the holders thereof, upon surrender of their certificate or certificates therefor, to receive certificates representing the number of shares of Common Stock into which such Series D Preferred Stock has been converted.

(e) Promptly after receipt of the written notices referred to in Section 6(d) above and surrender of the certificate or certificates for the share or shares of Series D Preferred Stock to be converted (or, in lieu thereof, by delivery of an appropriate lost stock affidavit in the event such certificate or certificates have been lost or destroyed), but in no event more than three (3) Business Days thereafter, the Corporation shall issue and deliver, or cause to be issued and delivered, to the holder of Series D Preferred Stock, registered in such name or names as such holder may direct in writing, a certificate or certificates for the number of whole shares of Common Stock issuable upon the conversion of such share or shares of Series D Preferred Stock. To the extent permitted by law, such optional conversion shall be deemed to have been effected, and the Series D Conversion Price shall be determined, as of the close of business on the date on which such Optional Conversion Notice shall have been received by the Corporation and the certificate or certificates for such share or shares of Series D Preferred Stock shall have been surrendered as aforesaid (or, in lieu thereof, an appropriate lost stock affidavit has been delivered to the Corporation). Upon a mandatory conversion, such conversion shall be deemed to have been effected, and the Series D Conversion Price shall be determined, as of the close of business on the date on which the conditions in Section 6(b) have been satisfied. At such time of conversions, the rights of the holder of such share or shares of Series D Preferred Stock shall cease with respect to the shares of Series D Preferred Stock being converted, and the Person or Persons in whose name or names any certificate or certificates for shares of Common Stock shall be issuable upon such conversion shall be deemed to have become the holder or holders of record of the shares represented thereby.

(f) If the Company shall fail for any reason or for no reason to issue to a holder the applicable certificate or certificates within three (3) Business Days of receipt of documents necessary for the conversions set forth above (the "*Deadline Date*"), then, in addition to all other remedies available to such holder, if on or after the Business Day immediately following such three (3) Business Day period, such holder or holder's broker, acting on behalf of such holder, purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the holder of shares of Common Stock that such holder anticipated receiving from the Company upon a conversion of holder's Series D Preferred tock (a "*Buy-In*"), then the Company shall, within three (3) Business Days after such holder's request and in such holder's sole discretion, either (i) pay cash to the holder in an amount equal to such holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased (the "*Buy-In Price*"), at which point the Company's obligation to deliver such certificate (and to issue such shares of Common Stock) shall terminate, or (ii) promptly honor its obligation to deliver to such holder a certificate or certificates representing such shares of Common Stock and pay cash to the holder in an amount equal to the excess (if any) of the Buy-In Price over the product of (a) such number of shares of Common Stock, times (b) the closing bid price on the Deadline Date.

(g) No fractional shares shall be issued upon any conversion of shares of Series D Preferred Stock into Common Stock. If any fractional share of Common Stock would, except for the provisions of the first sentence of this Section 6(g), be delivered upon such conversion, the Corporation, in lieu of delivering such fractional share, shall pay to the holder surrendering the shares of Series D Preferred Stock for conversion an amount in cash equal to the Market Price of such fractional share of Common Stock. In case the number of shares of Series D Preferred Stock represented by the certificate or certificates surrendered pursuant to Section 6(d) above exceeds the number of shares converted, the Corporation shall, upon such conversion, execute and deliver to the holder, at the expense of the Corporation, a new certificate or certificates for the number of shares of Series D Preferred Stock represented by the certificate or certificates surrendered which are not to be converted.

(h) If, at any time after the Initial Issue Date, the number of shares of Common Stock outstanding is increased by a stock dividend payable in shares of Common Stock or by a subdivision or split-up of shares of Common Stock, then, following the record date for the determination of holders of Common Stock entitled to receive such stock dividend, or to be affected by such subdivision or split-up, the Series D Conversion Price shall be appropriately decreased so that the number of shares of Common Stock issuable on conversion of Series D Preferred Stock shall be increased in proportion to such increase in outstanding shares.

(i) If, at any time after the Initial Issue Date, the number of shares of Common Stock outstanding is decreased by a combination of the outstanding shares of Common Stock into a smaller number of shares of Common Stock, then, following the record date to determine shares affected by such combination, the Series D Conversion Price shall be appropriately increased so that the number of shares of Common Stock issuable on conversion of each share of Series D Preferred Stock shall be decreased in proportion to such decrease in outstanding shares.

(j) If the Common Stock issuable upon the conversion of the Series D Preferred Stock shall be changed into the same or different number of shares of any class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination or shares of stock dividend provided for elsewhere in this Section 6, or the sale of all or substantially all of the Corporation's properties and assets to any other Person), then and in each such event the holder of each share of Series D Preferred Stock shall have the right thereafter to convert such share into the kind and amount of shares of stock and other securities and property receivable upon such reorganization, reclassification or other change by holders of the number of shares of Common Stock into which such shares of Series D Preferred Stock might have been converted, as the case may be, immediately prior to such reorganization, reclassification or change, all subject to further adjustment as provided herein.

(k) If at any time or from time to time there shall be a merger or consolidation of the Corporation with or into another corporation, or the sale of all or substantially all of the Corporation's properties and assets to any other Person, then, as a part of such merger, or consolidation or sale, provision shall be made so that holders of Series D Preferred Stock, as the case may be, shall thereafter be entitled to receive upon conversion of the Series D Preferred Stock, the number of shares of stock or other securities or property of the Corporation, or of the successor corporation resulting from such merger, consolidation or sale, to which such holder would have been entitled if such holder had converted its shares of Series D Preferred Stock immediately prior to such merger, consolidation or sale, without regard to any conversion limitation specified in Section 6(j). In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 6 with respect to the rights of the holders of the Series D Preferred Stock after the merger, consolidation or sale to the end that the provisions of this Section 6, including adjustment of the Series D Conversion Price then in effect for the Series D Preferred Stock and the number of shares issuable upon conversion of the Series D Preferred Stock) shall be applicable after that event in as nearly equivalent a manner as may be practicable.

(l) (I) Except as to a mandatory conversion contemplated by Section 6(b) above, notwithstanding anything herein to the contrary, in no event shall a holder of Series D Preferred Stock be entitled to convert any portion of the Series D Preferred Stock so held by such holder in excess of that portion upon conversion of which the sum of (1) the number of shares of Common Stock beneficially owned by such holder and its Affiliates (other than shares of Common Stock which may be deemed beneficially owned through ownership of the unconverted shares of Series D Preferred Stock or the unexercised or unconverted portion of any other security of the holder subject to a limitation on conversion analogous to the limitations contained herein) and (2) the number of shares of Common Stock issuable upon the conversion of that portion of the Series D Preferred Stock with respect to which the determination of this proviso is being made, would result in beneficial ownership by such holder and its Affiliates of any amount greater than 4.99% of the then outstanding shares of Common Stock (whether or not, at the time of such conversion, the Holder and its Affiliates beneficially own more than 4.99% of the then outstanding shares of Common Stock). The waiver by a holder of Series D Preferred Stock of any limitation contained in an option or convertible security now or hereafter held by such holder that is similar or analogous to the limitations set forth in this Section 6(l) shall not be deemed a waiver or otherwise effect the limitation set forth in this Section 6(l), unless such waiver expressly states it is a waiver of the provisions of this Section 6(l). For purposes of this Section 6(l), beneficial ownership shall be determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended, and Regulations 13D-G thereunder, except as otherwise provided in clause (1) of such proviso. Any holder of Series D Preferred Stock may waive the limitations set forth herein by sixty-one (61) days written notice to the Corporation.

(II) Except as to a mandatory conversion contemplated by Section 6(b) above, notwithstanding anything herein to the contrary, in no event shall a holder of Series D Preferred Stock be entitled to convert any portion of the Series D Preferred Stock so held by such holder in excess of that portion upon conversion of which the sum of (1) the number of shares of Common Stock beneficially owned by such holder and its Affiliates (other than shares of Common Stock which may be deemed beneficially owned through ownership of the unconverted shares of Series D Preferred Stock or the unexercised or unconverted portion of any other security of the holder subject to a limitation on conversion analogous to the limitations contained herein) and (2) the number of shares of Common Stock issuable upon the conversion of that portion of the Series D Preferred Stock with respect to which the determination of this proviso is being made, would result in beneficial ownership by such holder and its Affiliates of any amount greater than 9.99% of the then outstanding shares of Common Stock (whether or not, at the time of such conversion, the Holder and its Affiliates beneficially own more than 9.99% of the then outstanding shares of Common Stock). The waiver by a holder of Series D Preferred Stock of any limitation contained in an option or convertible security now or hereafter held by such holder that is similar or analogous to the limitations set forth in this Section 6(l) shall not be deemed a waiver or otherwise effect the limitation set forth in this Section 6(l), unless such waiver expressly states it is a waiver of the provisions of this Section 6(l). For purposes of this Section 6(l), beneficial ownership shall be determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended, and Regulations 13D-G thereunder, except as otherwise provided in clause (1) of such proviso. Any holder of Series D Preferred Stock may waive the limitations set forth herein by sixty-one (61) days written notice to the Corporation.

(m) Notices of Record Date. In case at any time:

(1) the Corporation shall declare any dividend upon its Common Stock or any other class or series of capital stock of the Corporation payable in cash or stock or make any other distribution to the holders of its Common Stock or any such other class or series of capital stock;

(2) the Corporation shall offer for subscription pro rata to the holders of its Common Stock or any other class or series of capital stock of the Corporation any additional shares of stock of any class or other rights; or

(3) there shall be any capital reorganization or reclassification of the capital stock of the Corporation, any Acquisition or a liquidation, dissolution or winding up of the Corporation;

then, in any one or more of said cases, the Corporation shall give, by delivery in person or by certified or registered mail, return receipt requested, addressed to each holder of any shares of Series D Preferred Stock at the address of such holder as shown on the books of the Corporation, (a) at least 20 Business Days' prior written notice of the date on which the books of the Corporation shall close or a record shall be taken for such dividend, distribution or subscription rights or for determining rights to vote in respect of any event set forth in clause (3) of this Section 6(m) and (b) in the case of any event set forth in clause (3) of this Section 6(m), at least 20 Business Days' prior written notice of the date when the same shall take place. Such notice in accordance with the foregoing clause (a) shall also specify, in the case of any such dividend, distribution or subscription rights, the date on which the holders of Common Stock or such other class or series of capital stock shall be entitled thereto and such notice in accordance with the foregoing clause (b) shall also specify the date on which the holders of Common Stock and such other series or class of capital stock shall be entitled to exchange their Common Stock and other stock for securities or other property deliverable upon consummation of the applicable event set forth in clause (3) of this Section 6(m).

(n) Upon any adjustment of the Series D Conversion Price, then and in each such case the Corporation shall give prompt written notice thereof, by delivery in person or by certified or registered mail, return receipt requested, addressed to each holder of shares of Series D Preferred Stock at the address of such holder as shown on the books of the Corporation, which notice shall state the Series D Conversion Price resulting from such adjustment and setting forth in reasonable detail the method upon which such calculation is based.

(o) The Corporation will at all times reserve and keep available out of its authorized Common Stock, solely for the purpose of issuance upon conversion of the Series D Preferred Stock as herein provided, 100% of such number of shares of Common Stock as shall then be issuable upon the conversion of all outstanding shares of Series D Preferred Stock without regard to the limitation set forth in Section 6(l). The Corporation covenants that all shares of Common Stock which shall be so issued shall be duly and validly issued and fully paid and nonassessable, and free from all taxes, liens and charges with respect to the issue thereof, and, without limiting the generality of the foregoing, the Corporation covenants that it will from time to time take all such action as may be requisite to assure that the par value per share of the Common Stock is at all times equal to or less than the Series D Conversion Price in effect at the time. The Corporation will take all such action as may be necessary to assure that all such shares of Common Stock may be so issued without violation of any applicable law or regulation, or of any requirement of any national securities exchange upon which the Common Stock may be listed. The Corporation will not take any action which results in any adjustment of the Series D Conversion Price if the total number of shares of Common Stock issued and issuable after such action upon conversion of the Series D Preferred Stock would exceed the total number of shares of Common Stock then authorized by the Corporation's Amended and Restated Certificate of Incorporation.

(p) The issuance of certificates for shares of Common Stock upon conversion of Series D Preferred Stock shall be made without charge to the holders thereof for any issuance tax in respect thereof, provided that the Corporation shall not be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of any certificate in a name other than that of the holder of the Series D Preferred Stock which is being converted.

(q) The Corporation will at no time close its transfer books against the transfer of any Series D Preferred Stock or of any shares of Common Stock issued or issuable upon the conversion of any shares of Series D Preferred Stock in any manner which interferes with the timely conversion of such Series D Preferred Stock, except as may otherwise be required to comply with applicable securities laws.

7. ***Amendment***. This Certificate of Designations may only be amended with the prior written consent of the Requisite Holders and, in the event that any such amendment materially adversely affects a holder of Series D Preferred Stock in a manner disproportionate to the other holders of Series D Preferred Stock, without the prior written consent of such holder. The Corporation may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Corporation shall have obtained the written consent to such action or omission to act, of the Requisite Holders and, in the event that any such action or omission to act materially adversely affects a holder of Series D Preferred Stock in a manner disproportionate to the other holders of Series D Preferred Stock, without the prior written consent of such holder.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Designations to be duly executed as of the 11th day of April, 2008.

NOVELOS THERAPEUTICS, INC.

/s/ Harry S. Palmin

Name: Harry S. Palmin
Title: President and CEO

CERTIFICATE OF ELIMINATION
OF
SERIES A 8% CUMULATIVE CONVERTIBLE PREFERRED STOCK
OF
NOVELOS THERAPEUTICS, INC.

(Pursuant to Section 151(g) of the General
Corporation Law of the State of Delaware)

Novelos Therapeutics, Inc., a corporation organized and existing under the General Corporation Law of the State of Delaware (the "Corporation") does hereby certify as follows:

FIRST: The Certificate of Designations filed on September 30, 2005 and constituting part of the Corporation's Certificate of Incorporation (the "Certificate of Designations") authorizes the issuance of 6,000 shares of a series of Preferred Stock designated Series A 8% Cumulative Convertible Preferred Stock, par value $0.00001 per share (the "Series A Preferred Stock").

SECOND: Pursuant to the provisions of Section 151(g) of the General Corporation Law of the State of Delaware, the Board of Directors of the Corporation adopted the following resolutions:

RESOLVED, that no shares of the Corporation's Series A Preferred Stock are outstanding and that no shares of the Series A Preferred Stock will be issued subject to the Certificate of Designations; and

RESOLVED FURTHER, that all matters set forth in the Certificate of Designations with respect to the Series A Preferred Stock be eliminated from the Corporation's Certificate of Incorporation, as heretofore amended; and

RESOLVED FURTHER, that the officers of the Corporation are directed to file with the Secretary of State of the State of Delaware a Certificate of Elimination pursuant to Section 151(g) of the General Corporation Law of the State of Delaware setting forth these resolutions in order to eliminate from the Corporation's Certificate of Incorporation all matters set forth in the Certificate of Designations with respect to the Series A Preferred Stock.

THIRD: Pursuant to the provisions of Section 151(g) of the General Corporation Law of the State of Delaware, all references to the Series A Preferred Stock in the Certificate of Incorporation of the Corporation hereby are eliminated, and the shares that were designated to such series hereby are returned to the status of authorized but unissued shares of the Preferred Stock of the Corporation, without designation as to series.

[Signature on next page]

IN WITNESS WHEREOF, the Corporation has caused this Certificate to be signed by its duly authorized officer this 4th day of April, 2008.

NOVELOS THERAPEUTICS, INC.

By: /s/ Harry S. Palmin

Name: Harry S. Palmin
Title: President and Chief Executive Officer

NEITHER THESE SECURITIES NOR THE SECURITIES ISSUABLE UPON EXERCISE OF THESE SECURITIES HAVE BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION (THE "COMMISSION") OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT") AND APPLICABLE STATE SECURITIES LAWS AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO (I) AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR (II) AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES A C T AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS OR BLUE SKY LAWS.

Warrant No. ____ Original Issue Date: April 11, 2008

NOVELOS THERAPEUTICS, INC.

WARRANT TO PURCHASE [_____] SHARES OF COMMON STOCK, PAR VALUE $0.00001 PER SHARE

FOR VALUE RECEIVED, **[_____]** ("**Warrantholder**"), is entitled to purchase, subject to the provisions of this Warrant, from NOVELOS THERAPEUTICS, INC. a Delaware corporation ("**Corporation**"), at any time not later than 5:00 P.M., Eastern time, on April 11, 2013 (the "**Expiration Date**"), at an exercise price per share equal to $**0.65** (the exercise price in effect being herein called the "**Warrant Price**"), **[_____]** shares ("**Warrant Shares**") of the Corporation's Common Stock, par value $0.00001 per share ("**Common Stock**"). The number of Warrant Shares purchasable upon exercise of this Warrant and the Warrant Price shall be subject to adjustment from time to time as described herein. This Warrant has been issued pursuant to a certain Securities Purchase Agreement, dated as of March 26, 2008, as amended on April 9, 2008, by and among the Corporation and the Investors signatory thereto (the "**Purchase Agreement**"). All capitalized terms used but not defined herein shall have the meanings ascribed thereto in the Purchase Agreement.

Section 1. Registration. The Corporation shall maintain books for the transfer and registration of the Warrant. Upon the initial issuance of this Warrant, the Corporation shall issue and register the Warrant in the name of the Warrantholder.

Section 2. Transfers. As provided herein, this Warrant may be transferred only pursuant to a registration statement filed under the Securities Act, or an exemption from such registration. Subject to such restrictions, the Corporation shall transfer this Warrant from time to time upon the books to be maintained by the Corporation for that purpose, upon surrender thereof for transfer properly endorsed or accompanied by appropriate instructions for transfer and such other documents as may be reasonably required by the Corporation, including, if required by the Corporation, an opinion of its counsel to the effect that such transfer is exempt from the registration requirements of the Securities Act, to establish that such transfer is being made in accordance with the terms hereof, and a new Warrant shall be issued to the transferee and the surrendered Warrant shall be canceled by the Corporation.

Section 3. Exercise of Warrant.

(a) Subject to the provisions hereof, the Warrantholder may exercise this Warrant in whole or in part at any time prior to its expiration upon surrender of the Warrant, together with delivery of the duly executed Warrant exercise form attached hereto as Appendix A (the "**Exercise Agreement**") and payment by cash, certified check or wire transfer of funds for the aggregate Warrant Price for that number of Warrant Shares then being purchased, to the Corporation during normal business hours on any Business Day at the Corporation's principal executive offices (or such other office or agency of the Corporation as it may designate by notice to the holder hereof). The Warrant Shares so purchased shall be deemed to be issued to the holder hereof or such holder's designee, as the record owner of such shares, as of the close of business on the date on which this Warrant shall have been surrendered (or evidence of loss, theft or destruction thereof and security or indemnity satisfactory to the Corporation), the Warrant Price shall have been paid and the completed Exercise Agreement shall have been delivered. Certificates for the Warrant Shares so purchased, representing the aggregate number of shares specified in the Exercise Agreement, shall be delivered to the holder hereof within a reasonable time, not exceeding three (3) Business Day, after this Warrant shall have been so exercised. When the Corporation is required to deliver certificates upon exercise, if certificates are not delivered to the Warrantholder within such three (3) Business Days, the Corporation shall be liable to the Warrantholder for liquidated damages equal to 1.5% of the aggregate Warrant Price for each 30-day period (or portion thereof) beyond such three (3) Business Day-period that the certificates have not been so delivered. The certificates so delivered shall be in such denominations as may be requested by the holder hereof and shall be registered in the name of such holder or such other name as shall be designated by such holder. If this Warrant shall have been exercised only in part, then, unless this Warrant has expired, the Corporation shall, at its expense, at the time of delivery of such certificates, deliver to the holder a new Warrant representing the number of shares with respect to which this Warrant shall not then have been exercised.

(b) (I) Notwithstanding anything herein to the contrary, in no event shall a Warrantholder be entitled to exercise any portion of this Warrant so held by such Warrantholder in excess of that portion upon exercise of which the sum of (1) the number of shares of Common Stock beneficially owned by such Warrantholder and its Affiliates (other than shares of Common Stock which may be deemed beneficially owned through ownership of the unexercised shares of Common Stock underlying the Warrant or the unexercised or unconverted portion of any other security of the holder subject to a limitation on conversion analogous to the limitations contained herein) and (2) the number of shares of Common Stock issuable upon the exercise of that portion of the Warrant with respect to which the determination of this proviso is being made, would result in beneficial ownership by such Warrantholder and its Affiliates of any amount greater than 4.99% of the then outstanding shares of Common Stock (whether or not, at the time of such conversion, the Warrantholder and its Affiliates beneficially own more than 4.99% of the then outstanding shares of Common Stock). The waiver by a Warrantholder of any limitation contained in a warrant or convertible security now or hereafter held by such holder that is similar or analogous to the limitations set forth in this Section 3(b)(I) shall not be deemed a waiver or otherwise effect the limitation set forth in this Section 3(b)(I), unless such waiver expressly states it is a waiver of the provisions of this Section 3(b)(I). For purposes of this Section 3(b)(I), beneficial ownership shall be determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended, and Regulations 13D-G thereunder, except as otherwise provided in clause (1) of such proviso. Any Warrantholder may waive the limitations set forth herein by sixty-one (61) days written notice to the Corporation. The foregoing shall not affect the Company's right to redeem the Warrant pursuant to Section 19.

(II) Notwithstanding anything herein to the contrary, in no event shall a Warrantholder be entitled to exercise any portion of this Warrant so held by such Warrantholder in excess of that portion upon exercise of which the sum of (1) the number of shares of Common Stock beneficially owned by such Warrantholder and its Affiliates (other than shares of Common Stock which may be deemed beneficially owned through ownership of the unexercised shares of Common Stock or the unexercised or unconverted portion of any other security of the holder subject to a limitation on exercise analogous to the limitations contained herein) and (2) the number of shares of Common Stock issuable upon the exercise of that portion of the Warrant with respect to which the determination of this proviso is being made, would result in beneficial ownership by such Warrantholder and its Affiliates of any amount greater than 9.99% of the then outstanding shares of Common Stock (whether or not, at the time of such conversion, the Warrantholder and its Affiliates beneficially own more than 9.99% of the then outstanding shares of Common Stock). The waiver by a Warrantholder of any limitation contained in a warrant or convertible security now or hereafter held by such holder that is similar or analogous to the limitations set forth in this Section 3(b)(II) shall not be deemed a waiver or otherwise effect the limitation set forth in this Section 3(b)(II), unless such waiver expressly states it is a waiver of the provisions of this Section 3(b)(II). For purposes of this Section 3(b)(II), beneficial ownership shall be determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended, and Regulations 13D-G thereunder, except as otherwise provided in clause (1) of such proviso. Any Warrantholder may waive the limitations set forth herein by sixty-one (61) days written notice to the Corporation. The foregoing shall not affect the Company's right to redeem the Warrant pursuant to Section 19.

Section 4. Compliance with the Securities Act of 1933. The Corporation may cause the legend set forth on the first page of this Warrant to be set forth on each Warrant or similar legend on any security issued or issuable upon exercise of this Warrant, unless counsel for the Corporation is of the opinion as to any such security that such legend is unnecessary.

Section 5. Payment of Taxes. The Corporation will pay any documentary stamp taxes attributable to the initial issuance of Warrant Shares issuable upon the exercise of the Warrant; provided, however, that the Corporation shall not be required to pay any tax or taxes which may be payable in respect of any transfer involved in the issuance or delivery of any certificates for Warrant Shares in a name other than that of the registered holder of this Warrant in respect of which such shares are issued, and in such case, the Corporation shall not be required to issue or deliver any certificate for Warrant Shares or any Warrant until the person requesting the same has paid to the Corporation the amount of such tax or has established to the Corporation's reasonable satisfaction that such tax has been paid. The holder shall be responsible for income taxes due under federal, state or other law, if any such tax is due.

Section 6. Mutilated or Missing Warrants. In case this Warrant shall be mutilated, lost, stolen, or destroyed, the Corporation shall issue in exchange and substitution of and upon cancellation of the mutilated Warrant, or in lieu of and substitution for the Warrant lost, stolen or destroyed, a new Warrant of like tenor and for the purchase of a like number of Warrant Shares, but only upon receipt of evidence reasonably satisfactory to the Corporation of such loss, theft or destruction of the Warrant, and with respect to a lost, stolen or destroyed Warrant, reasonable indemnity or bond with respect thereto, if requested by the Corporation.

Section 7. Reservation of Common Stock. The Corporation hereby represents and warrants that there have been reserved, and the Corporation shall at all applicable times keep reserved until issued (if necessary) as contemplated by this Section 7, out of the authorized and unissued shares of Common Stock, 100% of the number of shares issuable upon exercise of the rights of purchase represented by this Warrant. The Corporation agrees that all Warrant Shares issued upon due exercise of the Warrant shall be, at the time of delivery of the certificates for such Warrant Shares, duly authorized, validly issued, fully paid and non-assessable shares of Common Stock of the Corporation.

Section 8. Adjustments. Subject and pursuant to the provisions of this Section 8, the Warrant Price and number of Warrant Shares subject to this Warrant shall be subject to adjustment from time to time as set forth hereinafter.

(a) If the Corporation shall, at any time or from time to time while this Warrant is outstanding, pay a dividend or make a distribution on its Common Stock in shares of Common Stock, subdivide its outstanding shares of Common Stock into a greater number of shares or combine its outstanding shares of Common Stock into a smaller number of shares or issue by reclassification of its outstanding shares of Common Stock any shares of its capital stock (including any such reclassification in connection with a consolidation or merger in which the Corporation is the continuing corporation), then the number of Warrant Shares purchasable upon exercise of the Warrant and the Warrant Price in effect immediately prior to the date upon which such change shall become effective, shall be adjusted by the Corporation so that the Warrantholder thereafter exercising the Warrant shall be entitled to receive the number of shares of Common Stock or other capital stock which the Warrantholder would have received if the Warrant had been fully exercised immediately prior to such event upon payment of a Warrant Price that has been adjusted to reflect a fair allocation of the economics of such event to the Warrantholder. Such adjustments shall be made successively whenever any event listed above shall occur.

(b) If any capital reorganization, reclassification of the capital stock of the Corporation, consolidation or merger of the Corporation with another corporation in which the Corporation is not the survivor, or sale, transfer or other disposition of all or substantially all of the Corporation's assets to another corporation shall be effected, then, the Corporation shall use its best efforts to ensure that lawful and adequate provision shall be made whereby each Warrantholder shall thereafter have the right to purchase and receive upon the basis and upon the terms and conditions herein specified and in lieu of the Warrant Shares immediately theretofore issuable upon exercise of the Warrant, such shares of stock, securities or assets as would have been issuable or payable with respect to or in exchange for a number of Warrant Shares equal to the number of Warrant Shares immediately theretofore issuable upon exercise of the Warrant, had such reorganization, reclassification, consolidation, merger, sale, transfer or other disposition not taken place, and in any such case appropriate provision shall be made with respect to the rights and interests of each Warrantholder to the end that the provisions hereof (including, without limitation, provision for adjustment of the Warrant Price) shall thereafter be applicable, as nearly equivalent as may be practicable in relation to any shares of stock, securities or assets thereafter deliverable upon the exercise thereof. The Corporation shall not effect any such consolidation, merger, sale, transfer or other disposition unless prior to or simultaneously with the consummation thereof the successor corporation (if other than the Corporation) resulting from such consolidation or merger, or the corporation purchasing or otherwise acquiring such assets or other appropriate corporation or entity shall assume the obligation to deliver to the holder of the Warrant, at the last address of such holder appearing on the books of the Corporation, such shares of stock, securities or assets as, in accordance with the foregoing provisions, such holder may be entitled to purchase, and the other obligations under this Warrant. The provisions of this Section 8(b) shall similarly apply to successive reorganizations, reclassifications, consolidations, mergers, sales, transfers or other dispositions.

(c) In case the Corporation shall fix a payment date for the making of a distribution to all holders of Common Stock (including any such distribution made in connection with a consolidation or merger in which the Corporation is the continuing corporation) of evidences of indebtedness or assets (other than cash dividends or cash distributions payable out of consolidated earnings or earned surplus or dividends or distributions referred to in Section 8(a)), or subscription rights or warrants, the Company shall provide notice to the Warrantholder at least 10 days in advance of the fixing of such payment date and the Warrantholder may elect to exercise this Warrant in whole or in part prior to such payment date in accordance with Section 3 hereof.

(d) For the term of this Warrant, in addition to the provisions contained above, the Warrant Price shall be subject to adjustment as provided below. An adjustment to the Warrant Price shall become effective immediately after the payment date in the case of each dividend or distribution and immediately after the effective date of each other event which requires an adjustment.

(e) In the event that, as a result of an adjustment made pursuant to this Section 8, the holder of this Warrant shall become entitled to receive any shares of capital stock of the Corporation other than shares of Common Stock, the number of such other shares so receivable upon exercise of this Warrant shall be subject thereafter to adjustment from time to time in a manner and on terms as nearly equivalent as practicable to the provisions with respect to the Warrant Shares contained in this Warrant.

Section 9. Fractional Interest. The Corporation shall not be required to issue fractions of Warrant Shares upon the exercise of this Warrant. If any fractional share of Common Stock would, except for the provisions of the first sentence of this Section 9, be deliverable upon such exercise, the Corporation, in lieu of delivering such fractional share, shall pay to the exercising holder of this Warrant an amount in cash equal to the Market Price of such fractional share of Common Stock on the date of exercise.

Section 10. [Reserved].

Section 11. Benefits. Nothing in this Warrant shall be construed to give any person, firm or corporation (other than the Corporation and the Warrantholder) any legal or equitable right, remedy or claim, it being agreed that this Warrant shall be for the sole and exclusive benefit of the Corporation and the Warrantholder.

Section 12. Notices to Warrantholder. Upon the happening of any event requiring an adjustment of the Warrant Price, the Corporation shall promptly give written notice thereof to the Warrantholder at the address appearing in the records of the Corporation, stating the adjusted Warrant Price and the adjusted number of Warrant Shares resulting from such event and setting forth in reasonable detail the method of calculation and the facts upon which such calculation is based. Failure to give such notice to the Warrantholder or any defect therein shall not affect the legality or validity of the subject adjustment.

Section 13. Identity of Transfer Agent. The Transfer Agent for the Common Stock is American Stock Transfer & Trust Company. Upon the appointment of any subsequent transfer agent for the Common Stock or other shares of the Corporation's capital stock issuable upon the exercise of the rights of purchase represented by the Warrant, the Corporation will mail to the Warrantholder a statement setting forth the name and address of such transfer agent.

Section 14. Notices. Unless otherwise provided, any notice required or permitted under this Warrant shall be given in writing and shall be deemed effectively given as hereinafter described (i) if given by personal delivery, then such notice shall be deemed given upon such delivery, (ii) if given by telex or facsimile, then such notice shall be deemed given upon receipt of confirmation of complete transmittal, (iii) if given by mail, then such notice shall be deemed given upon the earlier of (A) receipt of such notice by the recipient or (B) three days after such notice is deposited in first class mail, postage prepaid, and (iv) if given by an internationally recognized overnight air courier, then such notice shall be deemed given one day after delivery to such carrier. All notices shall be addressed as follows: if to the Warrantholder, at its address as set forth in the Corporation's books and records and, if to the Corporation, at the address as follows, or at such other address as the Warrantholder or the Corporation may designate by ten days' advance written notice to the other:

If to the Corporation:

Novelos Therapeutics, Inc.
One Gateway Center, Suite 504
Newton, MA 02458
Attention: Chief Executive Officer
Fax: (617) 964-6331

With a copy to:

Foley Hoag LLP
Seaport World Trade Center West
155 Seaport Boulevard
Boston, MA 02210
Attn: Paul Bork
Fax: (617) 832-7000

Section 15. Registration Rights. The initial holder of this Warrant is entitled to the benefit of certain registration rights with respect to the shares of Common Stock issuable upon the exercise of this Warrant as provided in the Registration Rights Agreement dated April 11, 2008, by and between the Warrantholders and the Corporation, and any subsequent holder hereof shall be entitled to such rights to the extent provided in the Registration Rights Agreement.

Section 16. Successors. All the covenants and provisions hereof by or for the benefit of the Warrantholder shall bind and inure to the benefit of its respective successors and assigns hereunder.

Section 17. Governing Law. This Warrant shall be governed by, and construed in accordance with, the internal laws of the State of New York, without reference to the choice of law provisions thereof. The Corporation and, by accepting this Warrant, the Warrantholder, each irrevocably submits to the exclusive jurisdiction of the courts of the State of New York located in New York County and the United States District Court for the Southern District of New York for the purpose of any suit, action, proceeding or judgment relating to or arising out of this Warrant and the transactions contemplated hereby. Service of process in connection with any such suit, action or proceeding may be served on each party hereto anywhere in the world by the same methods as are specified for the giving of notices under this Warrant. The Corporation and, by accepting this Warrant, the Warrantholder, each irrevocably consents to the jurisdiction of any such court in any such suit, action or proceeding and to the laying of venue in such court. The Corporation and, by accepting this Warrant, the Warrantholder, each irrevocably waives any objection to the laying of venue of any such suit, action or proceeding brought in such courts and irrevocably waives any claim that any such suit, action or proceeding brought in any such court has been brought in an inconvenient forum. **THE CORPORATION AND THE WARRANTHOLDER HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING RELATING TO OR ARISING OUT OF THIS WARRANT AND THE TRANSACTIONS CONTEMPLATED HEREBY.**

Section 18. No Rights as Shareholder. Prior to the exercise of this Warrant, the Warrantholder shall not have or exercise any rights as a shareholder of the Corporation by virtue of its ownership of this Warrant.

Section 19. Cashless Exercise. If, at any time after the six-month anniversary of the Original Issue Date, there is no effective registration statement covering all or any part of the Warrant Shares filed under the Securities Act, the Warrantholder may elect to receive, without the payment by the Warrantholder of the aggregate Warrant Price in respect of the shares of Common Stock to be acquired upon exercise hereof, shares of Common Stock equal to the value of this Warrant or any portion hereof being exercised pursuant to this Section 19 by the surrender of this Warrant (or such portion of this Warrant being so exercised) together with the Net Issue Election Notice annexed hereto as Appendix B duly executed, at the office of the Corporation. Thereupon, and in no event later than three (3) Business Days after the Corporation's receipt of the Net Issue Election Notice, the Corporation shall issue to the Warrantholder certificate(s) for such number of fully paid, validly issued and nonassessable shares of Common Stock as is computed using the formula immediately below. The certificates so delivered shall be in such denominations as may be requested by the holder hereof and shall be registered in the name of such holder or such other name as shall be designated by such holder. If this Warrant shall have been exercised only in part, then, unless this Warrant has expired, the Corporation shall, at its expense, at the time of delivery of such certificates, deliver to the holder a new Warrant representing the number of shares with respect to which this Warrant shall not then have been exercised.

$$X = \frac{Y\ (A - B)}{A}$$

where

X = the number of shares of Common Stock to be issued to the Warrantholder upon exercise of this Warrant pursuant to this Section 19;

Y = the total number of shares of Common Stock covered by this Warrant which the Warrantholder has surrendered at such time for cashless exercise (including both shares to be issued to the Warrantholder and shares to be canceled as payment therefor);

A = the Market Price of one share of Common Stock as at the time the net issue election is made; and

B = the Warrant Price in effect under this Warrant at the time the net issue election is made.

The Warrant Shares issued pursuant to this Section 19 shall be deemed to be issued to the exercising holder or such holder's designee, as the record owner of such shares, as of the close of business on the date on which the Net Issue Election Notice shall have been surrendered (or evidence of loss, theft or destruction thereof and security or indemnity satisfactory to the Corporation) to the Corporation.

"**Market Price**" as of a particular date (the "**Valuation Date**") shall mean the following: (a) if the Common Stock is then listed on a national stock exchange, the Market Price shall be the closing sale price of one share of Common Stock on such exchange on the last trading day prior to the Valuation Date, provided that if such stock has not traded in the prior ten (10) trading sessions, the Market Price shall be the average closing price of one share of Common Stock in the most recent ten (10) trading sessions during which the Common Stock has traded; (b) if the Common Stock is then included in the OTC Bulletin Board (the "**OTCBB**"), the Market Price shall be the closing sale price of one share of Common Stock on the OTCBB on the last trading day prior to the Valuation Date or, if no such closing sale price is available, the average of the high bid and the low ask price quoted on the OTCBB as of the end of the last trading day prior to the Valuation Date, provided that if such stock has not traded in the prior ten (10) trading sessions, the Market Price shall be the average closing price of one share of Common Stock in the most recent ten (10) trading sessions during which the Common Stock has traded, (c) if the Common Stock is then included in the "pink sheets," the Market Price shall be the closing sale price of one share of Common Stock on the "pink sheets" on the last trading day prior to the Valuation Date or, if no such closing sale price is available, the average of the high bid and the low ask price quoted on the "pink sheets" as of the end of the last trading day prior to the Valuation Date, provided that if such stock has not traded in the prior ten (10) trading sessions, the Market Price shall be the average closing price of one share of Common Stock in the most recent ten (10) trading sessions during which the Common Stock has traded. The Board of Directors of the Corporation shall respond promptly, in writing, to an inquiry by the Warrantholder prior to the exercise hereunder as to the Market Price of a share of Common Stock as determined by the Board of Directors of the Corporation.

Section 20. Redemption. If a registration statement covering the resale of all of the Warrant Shares underlying all of the Warrants is declared effective by the SEC, and is then effective, and the daily VWAP of the Common Stock for twenty (20) consecutive trading days exceeds $2.50 per share (subject to appropriate adjustment from time to time in the event of any stock dividend, stock split, reverse stock split, reclassification, stock combination or other recapitalization affecting the Common Stock), and the Company has provided the Warrantholder notice that this redemption provision of this Warrant has been triggered, then Warrantholders shall have up to thirty (30) days to exercise this Warrant in accordance with Section 3 at the Warrant Price then in effect. On and after the thirty-first day, this Warrant, to the extent unexercised, shall no longer be exercisable and shall be converted into a right to receive $.01 per share for the number of shares for which the Warrant had been exercisable at the end of the thirtieth day.

Section 21. Amendments. This Warrant shall not be amended without the prior written consent of the Corporation and the Requisite Holders; provided, that (x) any such amendment or waiver must apply to all Warrants; and (y) the number of Warrant Shares subject to this Warrant, the Warrant Price and the Expiration Date may not be amended, and the right to exercise this Warrant may not be altered or waived, without the prior written consent of the Warrantholder.

Section 22. Section Headings. The section headings in this Warrant are for the convenience of the Corporation and the Warrantholder and in no way alter, modify, amend, limit or restrict the provisions hereof.

Section 23. Certain Definitions. When used herein, the following terms shall have the respective meanings indicated:

"**Principal Market**" means, as of the Original Issuance Date the OTCBB.

"**Trading Day**" means any day on which the Common Stock is purchased and sold on the Principal Market.

"**VWAP**" on a Trading Day means the volume weighted average price of the Common Stock for such Trading Day on the Principal Market as reported by Bloomberg Financial Markets or, if Bloomberg Financial Markets is not then reporting such prices, by a comparable reporting service of national reputation selected by the Warrantholders and reasonably satisfactory to the Corporation. If VWAP cannot be calculated for the Common Stock on such Trading Day on any of the foregoing bases, then the Corporation shall submit such calculation to an independent investment banking firm of national reputation reasonably acceptable to the Warrantholders, and shall cause such investment banking firm to perform such determination and notify the Corporation and the Warrantholders of the results of determination no later than two (2) Business Days from the time such calculation was submitted to it by the Corporation. All such determinations shall be appropriately adjusted for any stock dividend, stock split or other similar transaction during such period.

IN WITNESS WHEREOF, the Corporation has caused this Warrant to be duly executed, as of the 11th day of April, 2008.

NOVELOS THERAPEUTICS, INC.

By: _____

Name: Harry S. Palmin

Title: President and CEO

APPENDIX A
NOVELOS THERAPEUTICS, INC.
WARRANT EXERCISE FORM

To: NOVELOS THERAPEUTICS, INC.

The undersigned hereby irrevocably elects to exercise the right of purchase represented by the within Warrant ("Warrant") for, and to purchase thereunder by the payment of the Warrant Price and surrender of the Warrant, _____ shares of Common Stock ("Warrant Shares") provided for therein, and requests that certificates for the Warrant Shares be issued as follows:

_____
Name

_____
Address

_____

_____
Federal Tax ID or Social Security No.

and delivered by

- ☐ certified mail to the above address, or
- ☐ electronically (provide DWAC Instructions:_____),

or

- ☐ other (specify: _____).

and, if the number of Warrant Shares shall not be all the Warrant Shares purchasable upon exercise of the Warrant, that a new Warrant for the balance of the Warrant Shares purchasable upon exercise of this Warrant be registered in the name of the undersigned Warrantholder or the undersigned's Assignee as below indicated and delivered to the address stated below.

Dated: _____, ____

Note: The signature must correspond with the name of the registered holder as written on the first page of the Warrant in every particular, without alteration or enlargement or any change whatever, unless the Warrant has been assigned.

Signature: _____

_____
Name (please print)

_____

_____
Address

_____
Federal Identification or
Social Security No.

Assignee:

_____

_____

_____

APPENDIX B

NOVELOS THERAPEUTICS, INC.
NET ISSUE ELECTION NOTICE

To: NOVELOS THERAPEUTICS, INC.

Date:_____

The undersigned hereby elects under Section 19 of the Warrant to surrender the right to purchase _____ shares of Common Stock pursuant to this Warrant and hereby requests the issuance of _____ shares of Common Stock. The certificate(s) for the shares issuable upon such net issue election shall be issued in the name of the undersigned or as otherwise indicated below.

_____
Signature

_____
Name for Registration

_____
Mailing Address

SECURITIES PURCHASE AGREEMENT

THIS SECURITIES PURCHASE AGREEMENT ("**Agreement**") is made as of this 26th day of March, 2008 (the "**Signing Date**") by and among Novelos Therapeutics, Inc., a Delaware corporation (the "**Company**"), the holders of Series B Preferred Stock (as defined below), and the investors set forth on **Schedule I** affixed hereto, as such Schedule may be amended from time to time in accordance with the terms of this Agreement (each an "**Investor**" and collectively the "**Investors**").

Recitals:

A. The Company desires, pursuant to this Agreement, to raise up to the Investment Amount (as defined below) through the issuance and sale of the following to the Investors (the "**Private Placement**"): (i) up to 100 shares of a newly created series of the Company's Preferred Stock, designated "Series D Convertible Preferred Stock", par value $0.00001 per share (the "**Preferred Stock**"), which Preferred Stock shall have the rights, preferences and privileges set forth in the Certificate of Designations, Preferences and Rights, in the form of **Exhibit A** annexed hereto and made a part hereof (the "**Certificate of Designations**"), and each share of Preferred Stock shall have a stated value of $50,000 and shall initially be convertible into shares of the Company's Common Stock, par value $0.00001 per share (the "**Common Stock**"), at a price of $0.65 per share (the "**Conversion Price**"), for an aggregate of 7,692,300 shares of Common Stock; and (ii) warrants to acquire up to 3,846,151 shares of Common Stock, equal to 50% of the number of shares of Common Stock underlying the Preferred Stock on the date of issue, with an exercise price of $0.65 per share, in the form of **Exhibit B** annexed hereto and made a part hereof (the "**Warrants**");

B. The Investors desire to purchase from the Company, and the Company desires to issue and sell to the Investors, upon the terms and conditions stated in this Agreement, such number of shares of Preferred Stock and Warrants to purchase such number of shares of Common Stock as is set forth next to each such Investor's name on **Schedule I** affixed hereto;

C. Subject to the conditions hereinafter set forth, on the Closing Date, the Investors will purchase the Preferred Stock and Warrants in the Private Placement for an aggregate purchase price equal to the Investment Amount;

D. The Company and the Investors are executing and delivering this Agreement in reliance upon the exemption from securities registration afforded by the provisions of Regulation D ("**Regulation D**"), as promulgated by the U.S. Securities and Exchange Commission (the "**SEC**") under the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder (the "1933 Act").

E. Contemporaneous with the sale of the Preferred Stock and the Warrants at the Closing, the parties hereto will enter into a Registration Rights Agreement, in the form attached hereto as **Exhibit D** (the "**Registration Rights Agreement**"), pursuant to which, among other things, the Company will provide certain registration rights to the Investors with respect to the shares of Common Stock issuable upon conversion or exercise, as the case may be, of the Preferred Stock, Warrants and Series B Warrants; and

NOW, THEREFORE, in consideration of the mutual promises made herein and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. Definitions. In addition to those terms defined above and elsewhere in this Agreement, for the purposes of this Agreement, the following terms shall have the meanings set forth in this Section 1:

"**1933 Act**" has the meaning set forth in the Recitals.

"**1934 Act**" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

"**10-KSB**" has the meaning set forth in Section 5.6.

"**Affiliate**" means, with respect to any Person, any other Person which directly or indirectly Controls, is Controlled by, or is under common Control with, such Person.

"**Agreement**" has the meaning set forth in the Recitals.

"**Business Day**" means a day, other than a Saturday or Sunday, on which banks in New York City are open for the general transaction of business.

"**Buy-In Price**" has the meaning set forth in Section 9.15.

"**Certificate of Designations**" has the meaning set forth in the Recitals.

"**Company Counsel Opinion**" means a legal opinion from the Company Counsel, dated as of the applicable Closing Date, in the form attached hereto as **Exhibit E**.

"**Closing**" has the meaning set forth in Section 4.1.

"**Closing Date**" has the meaning set forth in Section 4.2.

"**Common Stock**" has the meaning set forth in the Recitals, and also includes any securities into which the Common Stock may be reclassified.

"**Company**" has the meaning set forth in the Recitals.

"**Company Counsel**" means Foley Hoag LLP, counsel to the Company.

"**Company's Knowledge**" means the actual knowledge of the officers of the Company, after due inquiry and investigation.

"**Confidential Information**" means trade secrets, confidential information and know-how (including but not limited to ideas, formulae, compositions, processes, procedures and techniques, research and development information, computer program code, performance specifications, support documentation, drawings, specifications, designs, business and marketing plans, and customer and supplier lists and related information).

"**Control**" means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities, by contract or otherwise.

"**Conversion Price**" has the meaning set forth in the Recitals.

"**Conversion Shares**" means the shares of Common Stock issuable upon conversion of the Preferred Stock.

"**Covenant Expiration Event**" has the meaning set forth in Section 9.8.

"**Deadline Date**" has the meaning set forth in Section 9.15.

"**Disclosure Schedules**" has the meaning set forth in Section 5.

"**Eligible Market**" means the Trading Market on which the Common Stock is primarily listed on and quoted for trading, which, as of the Closing Date means the OTC Bulletin Board ("**OTCBB**").

"**Environmental Laws**" has the meaning set forth in Section 5.15.

"**Escrow Amount**" has the meaning set forth in Section 3.1(a).

"**Escrow Termination Date**" means the 15th calendar day after the Signing Date; provided, however, the Investors and the Company may jointly agree to extend the Escrow Termination Date for up to two additional 15-day periods by giving written notice to the Lead Investor Counsel of their election to so extend the Escrow Termination Date, in each case for up to an additional 15 calendar days, and in each such case, the Escrow Termination Date shall be the date specified in such notice; provided, further, however, the Escrow Termination Date shall not be later than April 30, 2008, on which date, if the Closing has not occurred, Lead Investor Counsel shall return the Escrow Amount in accordance with Section 3.1(b); provided, further, however, the Escrow Termination Date shall occur upon termination of this Agreement pursuant to Section 9.13.

"**Indemnified Person**" has the meaning set forth in Section 10.3.

"**Intellectual Property**" means all of the following: (i) patents, patent applications, patent disclosures and inventions (whether or not patentable and whether or not reduced to practice); (ii) trademarks, service marks, trade dress, trade names, corporate names, logos, slogans and Internet domain names, together with all goodwill associated with each of the foregoing; (iii) copyrights and copyrightable works; (iv) registrations, applications and renewals for any of the foregoing; (v) trade secrets, Confidential Information and know-how (including, but not limited to, ideas, formulae, compositions, manufacturing and production processes and techniques, research and development information, drawings, specifications, designs, business and marketing plans, and customer and supplier lists and related information); and (vi) computer software (including, but not limited to, data, data bases and documentation).

"**Investment Amount**" means an amount equal to $5,000,000.

"Lead Investors" shall mean the Xmark Entities and the Orbimed Entities, together.

"**Lead Investor Counsel**" has the meaning set forth in Section 3.1(a).

"**Lead Investor Counsel Duties**" has the meaning set forth in Section 3.2(a).

"**Lead Investor Counsel Fees**" has the meaning set forth in Section 11.5.

"Lead Investor Director" has the meaning set forth in Section 9.7(a).

"Lead Investor Observer" has the meaning set forth in Section 9.7(b)

"**License Agreements**" has the meaning set forth in Section 5.14(b).

"**Losses**" has the meaning set forth in Section 10.2.

"**Material Adverse Effect**" means a material adverse effect on (i) the assets and liabilities, prospects, results of operations, condition (financial or otherwise) or business of the Company and its Subsidiaries taken as a whole, or (ii) the ability of the Company to issue and sell the Securities and to perform its obligations under the Transaction Documents; *provided, however*, that: (A) any adverse effect that results from general economic, business or industry conditions, the taking by the Company of any action permitted or required by the Agreement, or the announcement or pendency of transactions contemplated hereunder, shall not, in and of itself, constitute a "Material Adverse Effect" on the Company, and shall not be considered in determining whether there has been or would be a "Material Adverse Effect" on the Company and (B) a decline in the Company's stock price shall not, in and of itself, constitute a "Material Adverse Effect" on the Company and shall not be considered in determining whether there has been or would be a "Material Adverse Effect" on the Company.

"**Material Contract**" means any contract of the Company or any Subsidiary (i) that was required to be filed as an exhibit to the SEC Filings pursuant to Item 601(b)(4) or Item 601(b)(10) of Regulation S-B of the 1933 Act or (ii) the loss of which could reasonably be expected to have a Material Adverse Effect.

"**Orbimed Entities** means, collectively, Caduceus Master Fund Limited, a Bermuda corporation ("**Caduceus Master**"), Caduceus Capital II, L.P., a Delaware limited partnership ("**Caduceus Capital**"), and Summer Street Life Sciences Hedge Fund Investors LLC, a Delaware limited liability company ("**Summer Street**") .

"**Person**" means an individual, corporation, partnership, limited liability company, trust, business trust, association, joint stock company, joint venture, sole proprietorship, unincorporated organization, governmental authority or any other form of entity not specifically listed herein.

"**Placement Agent**" shall mean Rodman and Renshaw.

"**Placement Agent Agreement**" means that certain letter from the Company to the Placement Agent, dated February 12, 2007, as amended by a letter agreement on March 25, 2008.

"**Placement Agent Fee**" has the meaning set forth in Section 5.19.

"**Preferred Stock**" has the meaning set forth in the Recitals.

"Press Release" has the meaning set forth in Section 9.13.

"**Prior Registration Agreement**" shall mean the registration rights agreements dated May 2, 2007 between the Company and the holders of Series B Preferred Stock.

"**Private Placement**" has the meaning set forth in the Recitals.

"**Registration Rights Agreement**" has the meaning set forth in the Recitals.

"**Regulation D**" has the meaning set forth in the Recitals.

"**Requisite Holders**" shall mean the holders of at least a majority of the then outstanding shares of Preferred Stock which majority must include (i) the Xmark Entities, provided such Xmark Entities have purchased an aggregate of $1,300,000 of Preferred Stock pursuant to this Agreement and hold at least one-third of the Preferred Stock issued to the Xmark Entities at Closing as of the date of determination and (ii) the OrbiMed Entities, provided such OrbiMed Entities have purchased an aggregate of $1,600,000 of Preferred Stock pursuant to this Agreement and hold at least one-third of the Preferred Stock issued to the OrbiMed Entities at Closing as of the date of determination (appropriately adjusted for any stock dividend, stock split, reverse stock split, reclassification, stock combination or other recapitalization occurring after the date hereof).

"Rule 144" has the meaning set forth in Section 9.14.

"**SEC**" has the meaning set forth in the Recitals.

"SEC Filings" has the meaning set forth in Section 5.6.

"**Securities**" means the Preferred Stock, the Conversion Shares, the shares of Common Stock issuable as payment-in-kind dividends on the Preferred Stock in accordance with the terms thereof, the Warrants and the Warrant Shares.

"**Series B Preferred Stock**" shall mean the 300 shares of Series B Convertible Preferred Stock, par value $.00001, issued pursuant to that certain Securities Purchase Agreement dated as of April 12, 2007, as amended on May 2, 2007.

"**Series B Warrants**" shall have the meaning set forth in Section 7.3.

"**Signing Date**" has the meaning set forth in the Recitals.

"**Subsidiary**" has the meaning set forth in Section 5.1.

"**Transaction Documents**" means this Agreement, the Warrants and the Registration Rights Agreement.

"**Warrant Shares**" means the shares of Common Stock issuable upon exercise of the Warrants.

"**Warrants**" has the meaning set forth in the Recitals.

"**Xmark Entities**" means, collectively, Xmark Opportunity Fund, L.P., a Delaware limited partnership ("**Xmark LP**") and Xmark Opportunity Fund, Ltd., a Cayman Islands exempted company ("**Xmark Ltd**").

2. Purchase and Sale of Securities.

Subject to the terms and conditions of this Agreement, including without limitation, the conditions set forth in Section 8, there shall be a closing at which the Company shall issue and sell, and each Investor listed on **Schedule I** attached hereto, which **Schedule I** may be amended from time to time, with the prior written consent of the Investors, to add additional Investors who agree to purchase Preferred Stock in the Private Placement by executing a counterpart to this Agreement following the date hereof, shall severally, and not jointly, purchase, the number of shares of Preferred Stock and the number of Warrants, in each case, in the respective amounts set forth opposite their names on **Schedule I** affixed hereto, in exchange for the cash consideration set forth as the "Closing Purchase Price" opposite their respective names on **Schedule I** affixed hereto.

3. Escrow.

3.1. (a) Simultaneously with the execution and delivery of this Agreement by an Investor, such Investor shall promptly cause a wire transfer of immediately available funds (U.S. dollars) in an amount representing the "Closing Purchase Price" on such Investor's signature page affixed hereto and opposite such Investor's name thereon, to be paid to a non-interest bearing escrow account of Lowenstein Sandler PC, the Lead Investors' counsel ("**Lead Investor Counsel**"), set forth on **Schedule II** affixed hereto (the aggregate amounts received being held in escrow by Lead Investor Counsel are referred to herein as the "**Escrow Amount**"). Lead Investor Counsel shall hold the Escrow Amount in escrow in accordance with Section 3.1(b).

(b) The Lead Lead Investor Counsel shall continue to hold the Escrow Amount in escrow in accordance with and subject to this Agreement, from the date of its receipt of the funds constituting the Escrow Amount until the soonest of:

(i) the Escrow Termination Date, in which case, if Lead Investor Counsel then holds any portion of the Escrow Amount, then: (A) Lead Investor Counsel shall return the portion of the Escrow Amount received from each Investor which it then holds, to each such Investor, in accordance with written wire transfer instructions received from such Investor; and (B) if Lead Investor Counsel has not received written wire transfer instructions from any Investor before the 30th day after the Escrow Termination Date, then Lead Investor Counsel may, in its sole and absolute discretion, either (x) deposit that portion of the Escrow Amount to be returned to such Investor in a court of competent jurisdiction on written notice to such Investor, and Lead Investor Counsel shall thereafter have no further liability with respect to such deposited funds, or (y) continue to hold such portion of the Escrow Amount pending receipt of written wire transfer instructions from such Investor or an order from a court of competent jurisdiction; OR

(ii) in the case of the Closing, receipt of written instructions from the Lead Investors that the Closing shall have been consummated, in which case, Lead Investor Counsel shall release the Escrow Amount constituting the aggregate of all the "Closing Purchase Price" for each of the Investors (the "Aggregate Purchase Price") as follows: (A) the Placement Agent Fee to the Placement Agent, (B) the Lead Investor Counsel Fees to the Lead Investor Counsel and (B) the balance of the aggregate "Closing Purchase Price" to the Company.

3.2. The Company and the Investors acknowledge and agree for the benefit of Lead Investor Counsel (which shall be deemed to be a third party beneficiary of this Section 3 and of Section 11) as follows:

(a) Investor Counsel: (i) is not responsible for the performance by the Company, the Investors or Placement Agent of this Agreement or any of the Transaction Documents or for determining or compelling compliance therewith; (ii) is only responsible for (A) holding the Escrow Amount in escrow pending receipt of written instructions from the Investors directing the release of the Escrow Amount, and (B) disbursing the Escrow Amount in accordance with the written instructions from the Investors, each of the responsibilities of Lead Investor Counsel in clause (A) and (B) is ministerial in nature, and no implied duties or obligations of any kind shall be read into this Agreement against or on the part of Lead Investor Counsel (collectively, the "**Lead Investor Counsel Duties**"); (iii) shall not be obligated to take any legal or other action hereunder which might in its judgment involve or cause it to incur any expense or liability unless it shall have been furnished with indemnification acceptable to it, in its sole discretion; (iv) may rely on and shall be protected in acting or refraining from acting upon any written notice, instruction (including, without limitation, wire transfer instructions, whether incorporated herein or provided in a separate written instruction), instrument, statement, certificate, request or other document furnished to it hereunder and believed by it to be genuine and to have been signed or presented by the proper Person, and shall have no responsibility for making inquiry as to, or for determining, the genuineness, accuracy or validity thereof, or of the authority of the Person signing or presenting the same; (v) may consult counsel satisfactory to it, and the opinion or advice of such counsel in any instance shall be full and complete authorization and protection in respect of any action taken, suffered or omitted by it hereunder in good faith and in accordance with the opinion or advice of such counsel; and (vi) shall be authorized to receive from the Escrow Amount, on the applicable Closing Date, the Lead Investor Counsel Fees. Documents and written materials referred to in this Section 3.2(a) include, without limitation, e-mail and other electronic transmissions capable of being printed, whether or not they are in fact printed; and any such e-mail or other electronic transmission may be deemed and treated by Lead Investor Counsel as having been signed or presented by a Person if it bears, as sender, the Person's e-mail address.

(b) Lead Investor Counsel shall not be liable to anyone for any action taken or omitted to be taken by it hereunder, except in the case of Investor Counsel's gross negligence or willful misconduct in breach of the Lead Investor Counsel Duties. IN NO EVENT SHALL LEAD INVESTOR COUNSEL BE LIABLE FOR INDIRECT, PUNITIVE, SPECIAL OR CONSEQUENTIAL DAMAGE OR LOSS (INCLUDING BUT NOT LIMITED TO LOST PROFITS) WHATSOEVER, EVEN IF LEAD INVESTOR COUNSEL HAS BEEN INFORMED OF THE LIKELIHOOD OF SUCH LOSS OR DAMAGE AND REGARDLESS OF THE FORM OF ACTION.

(c) The Company and the Investors hereby indemnify and hold harmless Lead Investor Counsel from and against any and all loss, liability, cost, damage and expense, including, without limitation, reasonable counsel fees and expenses, which Lead Investor Counsel may suffer or incur by reason of any action, claim or proceeding brought against Lead Investor Counsel arising out of or relating to the performance of the Lead Investor Counsel Duties, unless such action, claim or proceeding is exclusively the result of the willful misconduct, bad faith or gross negligence of Investor Counsel.

(d) Lead Investor Counsel has acted as legal counsel to one or more of the Investors in connection with this Agreement and the other Transaction Documents, is merely acting as a stakeholder under this Agreement and is, therefore, hereby authorized to continue acting as legal counsel to such Lead Investors including, without limitation, with regard to any dispute arising out of this Agreement, the other Transaction Documents, the Escrow Amount or any other matter. Each of the Company and the Investors hereby expressly consents to permit Lead Investor Counsel to represent such Investors in connection with all matters relating to this Agreement, including, without limitation, with regard to any dispute arising out of this Agreement, the other Transaction Documents, the Escrow Amount or any other matter, and hereby waives any conflict of interest or appearance of conflict or impropriety with respect to such representation. Each of the Company and the Investors has consulted with its own counsel specifically about this Section 3 to the extent they deemed necessary, and has entered into this Agreement after being satisfied with such advice.

(e) Lead Investor Counsel shall have the right at any time to resign for any reason and be discharged of its duties as escrow agent hereunder (including without limitation the Lead Investor Counsel Duties) by giving written notice of its resignation to the Company and the Lead Investors at least ten (10) calendar days prior to the specified effective date of such resignation. All obligations of the Lead Investor Counsel hereunder shall cease and terminate on the effective date of its resignation and its sole responsibility thereafter shall be to hold the Escrow Amount, for a period of ten (10) calendar days following the effective date of resignation, at which time,

(i) Lead Investor Counsel shall be entitled to receive from the Escrow Amount the Lead Investor Counsel Fees through and including the effective date of resignation; and

(ii) if a successor escrow agent shall have been appointed and have accepted such appointment in a writing to both the Company and the Lead Investors, then upon written notice thereof given to each of the Investors, the Lead Investor Counsel shall deliver the Escrow Amount to the successor escrow agent, and upon such delivery, Lead Investor Counsel shall have no further liability or obligation; or

(iii) if a successor escrow agent shall not have been appointed, for any reason whatsoever, Lead Investor Counsel shall at its option in its sole discretion, either (A) deliver the Escrow Amount to a court of competent jurisdiction selected by Lead Investor Counsel and give written notice thereof to the Company and the Investors, or (B) continue to hold Escrow Amount in escrow pending written direction from the Company and the Lead Investors in form and formality satisfactory to Investor Counsel.

(f) In the event that the Lead Investor Counsel shall be uncertain as to its duties or rights hereunder or shall receive instructions with respect to the Escrow Amount or any portion thereunder which, in its sole discretion, are in conflict either with other instructions received by it or with any provision of this Agreement, Lead Investor Counsel shall have the absolute right to suspend all further performance under this Agreement (except for the safekeeping of such Escrow Amount) until such uncertainty or conflicting instructions have been resolved to the Investor Counsel's sole satisfaction by final judgment of a court of competent jurisdiction, joint written instructions from the Company and all of the Investors, or otherwise. In the event that any controversy arises between the Company and one or more of the Investors or any other party with respect to this Agreement or the Escrow Amount, the Lead Investor Counsel shall not be required to determine the proper resolution of such controversy or the proper disposition of the Escrow Amount, and shall have the absolute right, in its sole discretion, to deposit the Escrow Amount with the clerk of a court selected by the Lead Investor Counsel and file a suit in interpleader in that court and obtain an order from that court requiring all parties involved to litigate in that court their respective claims arising out of or in connection with the Escrow Amount. Upon the deposit by the Lead Investor Counsel of the Escrow Amount with the clerk of such court in accordance with this provision, the Lead Investor Counsel shall thereupon be relieved of all further obligations and released from all liability hereunder.

(g) The provisions of this Section 3 shall survive any termination of this Agreement.

4. Closing.

4.1 Place. The closings of the transactions contemplated by this Agreement (the "**Closing**") shall take place at the offices of Investor Counsel, 1251 Avenue of the Americas, New York, New York, or at such other location and on such other date as the Company and the Investors shall mutually agree (or remotely via the exchange of documents and signatures), on the Closing Date.

4.2 Closing. Upon satisfaction of the conditions to Closing set forth in Section 8 hereof, the Lead Investors shall instruct Lead Investor Counsel to immediately release, and upon receipt of such instructions, Lead Investor Counsel shall release, that portion of the Escrow Amount constituting the Aggregate Purchase Price as follows: (A) the Lead Investor Counsel Fees to the Lead Investor Counsel and (B) the balance of the Aggregate Purchase Price to the Company (the date of receipt of such balance by the Company is hereinafter referred to as the "**Closing Date**"). On the Closing Date, the Company shall issue or cause to be issued to each Investor a certificate or certificates, registered in such name or names as each such Investor may designate, representing the number of shares of Preferred Stock as is set forth opposite such Investor's name on **Schedule I** affixed hereto and shall also issue to each such Investor, or such Investor's respective designees, the number of Warrants as is set forth opposite such Investor's name on **Schedule I** affixed hereto.

5. Representations and Warranties of the Company. The Company hereby represents and warrants to the Investors on and as of the Signing Date and on the Closing Date, knowing and intending their reliance hereon, that, except as set forth in the schedules delivered on the Signing Date (collectively, the "**Disclosure Schedules**"):

5.1. Organization, Good Standing and Qualification. Each of the Company and its Subsidiaries, a complete list of which is set forth in Schedule 5.1 hereto ("**Subsidiaries**"), is a corporation duly incorporated, validly existing and in good standing under the laws of the jurisdiction of its incorporation and has all requisite corporate power and authority to carry on its business as now conducted and to own its properties. Each of the Company and its Subsidiaries is duly qualified to do business as a foreign corporation and is in good standing in each jurisdiction in which the conduct of its business or its ownership or its leasing of property makes such qualification or licensing necessary, unless the failure to so qualify would not have a Material Adverse Effect.

5.2. Authorization. The Company has full power and authority and has taken all requisite action on the part of the Company, its officers, directors and stockholders necessary for (i) the authorization, execution and delivery of the Transaction Documents and the Certificate of Designations, (ii) authorization of the performance of all obligations of the Company hereunder or thereunder, and (iii) the authorization, issuance (or reservation for issuance) and delivery of the Securities. The Transaction Documents constitute the legal, valid and binding obligations of the Company, enforceable against the Company in accordance with their respective terms, subject to bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and similar laws of general applicability, relating to or affecting creditors' rights generally.

5.3. Capitalization.

(a) Schedule 5.3 sets forth (i) the authorized capital stock of the Company on the date hereof, (ii) the number of shares of capital stock issued and outstanding, (iii) the number of shares of capital stock issuable pursuant to the Company's stock plans, and (iv) the number of shares of capital stock issuable and reserved for issuance pursuant to securities (other than the Securities) exercisable for, or convertible into or exchangeable for any shares of capital stock of the Company. All of the issued and outstanding shares of the Company's capital stock have been duly authorized and validly issued and are fully paid, nonassessable and free of pre-emptive rights and were issued in full compliance with applicable law and any rights of third parties. All of the issued and outstanding shares of capital stock of each Subsidiary have been duly authorized and validly issued and are fully paid, nonassessable and free of pre-emptive rights, were issued in full compliance with applicable law and any rights of third parties and are owned by the Company, beneficially and of record, and, except as described on Schedule 5.3, are subject to no lien, encumbrance or other adverse claim. No Person is entitled to pre-emptive or similar statutory or contractual rights with respect to any securities of the Company. Except as described on Schedule 5.3, there are no outstanding warrants, options, convertible securities or other rights, agreements or arrangements of any character under which the Company or any of its Subsidiaries is or may be obligated to issue any equity securities of any kind and, except as contemplated by this Agreement, neither the Company nor any of its Subsidiaries is currently in negotiations for the issuance of any equity securities of any kind. Except as described on Schedule 5.3 and except for the Registration Rights Agreement, there are no voting agreements, buy-sell agreements, option or right of first purchase agreements or other agreements of any kind among the Company and any of its security holders relating to the securities of the Company. Except as described on Schedule 5.3, the Company has not granted any Person the right to require the Company to register any of its securities under the 1933 Act, whether on a demand basis or in connection with the registration of securities of the Company for its own account or for the account of any other Person.

(b) Schedule 5.3 sets forth a true and complete table setting forth the pro forma capitalization of the Company on a fully diluted basis giving effect to (i) the issuance of the Preferred Stock and the Warrants at the time of the Closing, (ii) any adjustments in other securities resulting from the issuance of the Preferred Stock and the Warrants at the time of the Closing, and (iii) the exercise or conversion of all outstanding securities. Except as described on Schedule 5.3, the issuance and sale of the Securities hereunder will not obligate the Company to issue shares of Common Stock or other securities to any other Person (other than the Investors) and will not result in the adjustment of the exercise, conversion, exchange or reset price of any outstanding security.

(c) Except as set forth on Schedule 5.3, the Company does not have outstanding stockholder purchase rights or any similar arrangement in effect giving any Person the right to purchase any equity interest in the Company upon the occurrence of certain events.

5.4. Valid Issuance. The Preferred Stock has been duly and validly authorized and when issued to the Investors in accordance with the terms of this Agreement will be validly issued, fully paid and nonassessable, shall have the rights, preferences and limitations set forth in the Certificate of Designations and shall be free and clear of all liens, claims, encumbrances and restrictions, except for restrictions on transfer set forth in the Transaction Documents and the Certificate of Designations or imposed by applicable securities laws. Upon the due conversion of the Preferred Stock, the Conversion Shares will be validly issued, fully paid and nonassessable, and shall be free and clear of all liens, claims, encumbrances and restrictions, except for restrictions on transfer set forth in the Transaction Documents and the Certificate of Designations or imposed by applicable securities laws. The Warrants have been duly and validly authorized and, upon the due exercise of the Warrants, the Warrant Shares will be validly issued, fully paid and non-assessable, and shall be free and clear of all liens, claims, encumbrances and restrictions, except for restrictions on transfer set forth in the Transaction Documents and the Certificate of Designations or imposed by applicable securities laws. The Company has reserved a sufficient number of shares of Common Stock for issuance upon conversion of the Preferred Stock and exercise of the Warrants.

5.5. Consents. The execution, delivery and performance by the Company of the Transaction Documents and the Certificate of Designations and the offer, issuance and sale of the Securities require no consent of, action by or in respect of, or filing with, any Person, governmental body, agency, or official other than those consents set forth on Schedule 5.5 and filings that have been made pursuant to applicable state securities laws and post-sale filings pursuant to applicable state and federal securities laws which the Company undertakes to file within the applicable time periods. The Company has taken all action necessary to exempt (i) the issuance and sale of the Securities, (ii) the issuance of the Conversion Shares upon due conversion of the Preferred Stock, (iii) the issuance of the Warrant Shares upon due exercise of the Warrants, and (iv) the other transactions contemplated by the Transaction Documents from the provisions of any anti-takeover, business combination or control share law or statute binding on the Company or to which the Company or any of its assets and properties may be subject or any provision of the Company's Certificate of Incorporation, Bylaws or any stockholder rights agreement that is or could become applicable to the Investors as a result of the transactions contemplated hereby, including without limitation, the issuance of the Securities and the ownership, disposition or voting of the Securities by the Investors or the exercise of any right granted to the Investors pursuant to this Agreement, the Certificate of Designations or the other Transaction Documents.

5.6. Delivery of SEC Filings; Business. Copies of the Company's most recent Annual Report on Form 10-KSB for the fiscal year ended December 31, 2007 (the "**10-KSB**"), and all other reports filed by the Company pursuant to the 1934 Act since the filing of the 10-KSB and prior to the date hereof (collectively, the "**SEC Filings**") are available on EDGAR. The SEC Filings are the only filings required of the Company pursuant to the 1934 Act for such period. The Company and its Subsidiaries are engaged only in the business described in the SEC Filings and the SEC Filings contain a complete and accurate description in all material respects of the business of the Company and its Subsidiaries, taken as a whole.

5.7. No Material Adverse Change. Except as contemplated herein, identified and described in the SEC Filings or as described on Schedule 5.7(a), since January 1, 2008, there has not been:

(i) any change in the consolidated assets, liabilities, financial condition or operating results of the Company from that reflected in the financial statements included in the SEC Filings, except for changes in the ordinary course of business which have not and could not reasonably be expected to have a Material Adverse Effect, individually or in the aggregate;

(ii) any declaration or payment of any dividend, or any authorization or payment of any distribution, on any of the capital stock of the Company, or any redemption or repurchase of any securities of the Company;

(iii) any material damage, destruction or loss, whether or not covered by insurance to any assets or properties of the Company or its Subsidiaries;

(iv) any waiver, not in the ordinary course of business, by the Company or any Subsidiary of a material right or of a material debt owed to it;

(v) any satisfaction or discharge of any lien, claim or encumbrance or payment of any obligation by the Company or a Subsidiary, except in the ordinary course of business and which is not material to the assets, properties, financial condition, operating results, prospects or business of the Company and its Subsidiaries taken as a whole;

(vi) any change or amendment to the Company's Certificate of Incorporation or Bylaws, or material change to any Material Contract or arrangement by which the Company or any Subsidiary is bound or to which any of their respective assets or properties is subject;

(vii) any material labor difficulties or labor union organizing activities with respect to employees of the Company or any Subsidiary;

(viii) any transaction entered into by the Company or a Subsidiary other than in the ordinary course of business;

(ix) the loss of the services of any key employee, or material change in the composition or duties of the senior management of the Company or any Subsidiary;

(x) the loss or threatened loss of any customer which has had or could reasonably be expected to have a Material Adverse Effect; or

(xi) any other event or condition of any character that has had or could reasonably be expected to have a Material Adverse Effect.

5.8. SEC Filings. At the time of filing thereof, the SEC Filings complied as to form in all material respects with the requirements of the 1934 Act and did not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading. The Company is not (with or without the lapse of time or the giving of notice, or both) in breach or default of any Material Contract and, to the Company's Knowledge, no other party to any Material Contract is (with or without the lapse of time or the giving of notice, or both) in breach or default of any Material Contract. Neither the Company nor any Subsidiary has received any notice of the intention of any party to terminate any Material Contract.

5.9. No Conflict, Breach, Violation or Default. The execution, delivery and performance of the Transaction Documents and the Certificate of Designations by the Company and the issuance and sale of the Securities will not conflict with or result in a breach or violation of any of the terms and provisions of, or constitute a default under (i) the Company's Certificate of Incorporation or Bylaws, both as in effect on the date hereof (true and accurate copies of which have been provided to the Investors before the date hereof), or (ii)(a) any statute, rule, regulation or order of any governmental agency or body or any court, domestic or foreign, having jurisdiction over the Company, any Subsidiary or any of their respective assets or properties, or (b) except as set forth on Schedule 5.9, any agreement or instrument to which the Company or any Subsidiary is a party or by which the Company or a Subsidiary is bound or to which any of their respective assets or properties is subject.

5.10. Tax Matters. Each of the Company and each Subsidiary has timely prepared and filed all tax returns required to have been filed by the Company or such Subsidiary with all appropriate governmental agencies and timely paid all taxes shown thereon or otherwise owed by it. The charges, accruals and reserves on the books of the Company in respect of taxes for all fiscal periods are adequate in all material respects, and there are no material unpaid assessments against the Company or any Subsidiary nor, to the Company's Knowledge, any basis for the assessment of any additional taxes, penalties or interest for any fiscal period or audits by any federal, state or local taxing authority except for any assessment which is not material to the Company and its Subsidiaries, taken as a whole. All taxes and other assessments and levies that the Company or any Subsidiary is required to withhold or to collect for payment have been duly withheld and collected and paid to the proper governmental entity or third party when due. There are no tax liens or claims pending or, to the Company's Knowledge, threatened against the Company or any Subsidiary or any of their respective assets or properties. Except as described on Schedule 5.10, there are no outstanding tax sharing agreements or other such arrangements between the Company and any Subsidiary or other corporation or entity. Neither the Company nor any Subsidiary is presently undergoing any audit by a taxing authority, or has waived or extended any statute of limitations at the request of any taxing authority.

5.11. Title to Properties. Except as disclosed in the SEC Filings or as set forth on Schedule 5.11, the Company and each Subsidiary has good and marketable title to all real properties and all other properties and assets owned by it, in each case free from liens, encumbrances and defects that would materially affect the value thereof or materially interfere with the use made or currently planned to be made thereof by them; and except as disclosed in the SEC Filings, the Company and each Subsidiary holds any leased real or personal property under valid and enforceable leases with no exceptions that would materially interfere with the use made or currently planned to be made thereof by them.

5.12. Certificates, Authorities and Permits. The Company and each Subsidiary possess adequate certificates, authorities or permits issued by appropriate governmental agencies or bodies necessary to conduct the business now operated by it, and neither the Company nor any Subsidiary has received any notice of proceedings relating to the revocation or modification of any such certificate, authority or permit that, if determined adversely to the Company or such Subsidiary, could reasonably be expected to have a Material Adverse Effect, individually or in the aggregate.

5.13. No Labor Disputes. No material labor dispute with the employees of the Company or any Subsidiary exists or, to the Company's Knowledge, is imminent.

5.14. Intellectual Property.

(a) All Intellectual Property of the Company and its Subsidiaries is currently in compliance with all legal requirements (including timely filings, proofs and payments of fees) and is valid and enforceable. Except as listed on Schedule 5.14(a), no Intellectual Property of the Company or its Subsidiaries which is necessary for the conduct of Company's and each of its Subsidiaries' respective businesses as currently conducted or as currently proposed to be conducted has been or is now involved in any cancellation, dispute or litigation, and, to the Company's Knowledge, no such action is threatened. Except as listed on Schedule 5.14(a), no patent of the Company or its Subsidiaries has been or is now involved in any interference, reissue, re-examination or opposition proceeding.

(b) All of the licenses and sublicenses and consent, royalty or other agreements concerning Intellectual Property which are necessary for the conduct of the Company's and each of its Subsidiaries' respective businesses as currently conducted or as currently proposed to be conducted to which the Company or any Subsidiary is a party or by which any of their assets are bound (other than generally commercially available, non-custom, off-the-shelf software application programs having a retail acquisition price of less than $25,000 per license) (collectively, "**License Agreements**") are valid and binding obligations of the Company or its Subsidiaries that are parties thereto and, to the Company's Knowledge, the other parties thereto, enforceable in accordance with their terms, except to the extent that enforcement thereof may be limited by bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or other similar laws affecting the enforcement of creditors' rights generally, and there exists no event or condition which will result in a material violation or breach of or constitute (with or without due notice or lapse of time or both) a default by the Company or any of its Subsidiaries under any such License Agreement.

(c) The Company and its Subsidiaries own or have the valid right to use all of the Intellectual Property that is necessary for the conduct of the Company's and each of its Subsidiaries' respective businesses as currently conducted or as currently proposed to be conducted, free and clear of all liens, encumbrances, adverse claims or obligations to license all such owned Intellectual Property and Confidential Information, other than licenses entered into in the ordinary course of the Company's and its Subsidiaries' businesses. The Company and its Subsidiaries have a valid and enforceable right to use all third party Intellectual Property and Confidential Information used or held for use in the respective businesses of the Company and its Subsidiaries as currently conducted or as currently proposed to be conducted.

(d) To the Company's Knowledge, the conduct of the Company's and its Subsidiaries' businesses as currently conducted and as currently proposed to be conducted does not and will not infringe any Intellectual Property rights of any third party or any confidentiality obligation owed to a third party. To the Company's Knowledge, the Intellectual Property and Confidential Information of the Company and its Subsidiaries which are necessary for the conduct of Company's and each of its Subsidiaries' respective businesses as currently conducted or as currently proposed to be conducted are not being infringed by any third party. Except as set forth on Schedule 5.14(d), there is no litigation or order pending or outstanding or, to the Company's Knowledge, threatened or imminent, that seeks to limit or challenge or that concerns the ownership, use, validity or enforceability of any Intellectual Property or Confidential Information of the Company and its Subsidiaries and the Company's and its Subsidiaries' use of any Intellectual Property or Confidential Information owned by a third party, and, to the Company's Knowledge, there is no valid basis for the same.

(e) The consummation of the transactions contemplated hereby will not result in the alteration, loss, impairment of or restriction on the Company's or any of its Subsidiaries' ownership or right to use any of the Intellectual Property or Confidential Information which is necessary for the conduct of the Company's and each of its Subsidiaries' respective businesses as currently conducted or as currently proposed to be conducted.

(f) To the Company's Knowledge, all software owned by the Company or any of its Subsidiaries, and, to the Company's Knowledge, all software licensed from third parties by the Company or any of its Subsidiaries, (i) is free from any material defect, bug, virus, or programming, design or documentation error; (ii) operates and runs in a reasonable and efficient business manner; and (iii) conforms in all material respects to the specifications and purposes thereof.

(g) The Company and its Subsidiaries have taken reasonable steps to protect the Company's and its Subsidiaries' rights in their Intellectual Property and Confidential Information. Each employee, consultant and contractor who has had access to Confidential Information which is necessary for the conduct of Company's and each of its Subsidiaries' respective businesses as currently conducted or as currently proposed to be conducted has executed an agreement to maintain the confidentiality of such Confidential Information and has executed appropriate agreements that are substantially consistent with the Company's standard forms therefor. To the Company's Knowledge, there has been no material disclosure of any of the Company's or its Subsidiaries' Confidential Information to any third party without the Company's consent.

5.15. Environmental Matters. Neither the Company nor any Subsidiary (i) is in violation of any statute, rule, regulation, decision or order of any governmental agency or body or any court, domestic or foreign, relating to the use, disposal or release of hazardous or toxic substances or relating to the protection or restoration of the environment or human exposure to hazardous or toxic substances (collectively, "**Environmental Laws**"), (ii) owns or operates any real property contaminated with any substance that is subject to any Environmental Laws, (iii) is liable for any off-site disposal or contamination pursuant to any Environmental Laws, and (iv) is subject to any claim relating to any Environmental Laws; which violation, contamination, liability or claim has had or could reasonably be expected to have a Material Adverse Effect, individually or in the aggregate; and there is no pending or, to the Company's Knowledge, threatened investigation that might lead to such a claim.

5.16. Litigation. Except as disclosed in the SEC Filings, there are no pending actions, suits or proceedings against or affecting the Company, its Subsidiaries or any of its or their properties; and to the Company's Knowledge, no such actions, suits or proceedings are threatened or contemplated.

5.17. Financial Statements. The financial statements included in each SEC Filing fairly present the consolidated financial position of the Company as of the dates shown and its consolidated results of operations and cash flows for the periods shown, and such financial statements have been prepared in conformity with United States generally accepted accounting principles applied on a consistent basis. Except as set forth in the financial statements of the Company included in the SEC Filings filed prior to the date hereof, neither the Company nor any of its Subsidiaries has incurred any liabilities, contingent or otherwise, except those which, individually or in the aggregate, have not had or could not reasonably be expected to have a Material Adverse Effect.

5.18. Insurance Coverage. The Company and each Subsidiary maintains in full force and effect insurance coverage and the Company reasonably believes such insurance coverage is adequate.

5.19. Brokers and Finders. Except for the cash commission to be paid (the "**Placement Agent Fee**") to the Placement Agent pursuant to the terms of the Placement Agent Agreement, as disclosed in Schedule 5.19 or as otherwise disclosed in Schedule 5.19, no Person will have, as a result of the transactions contemplated by this Agreement, any valid right, interest or claim against or upon the Company, any Subsidiary or any Investor for any commission, fee or other compensation pursuant to any agreement, arrangement or understanding entered into by or on behalf of the Company.

5.20. No Directed Selling Efforts or General Solicitation. Neither the Company nor any Affiliate, nor any Person acting on its behalf has conducted any "general solicitation" or "general advertising" (as those terms are used in Regulation D) in connection with the offer or sale of any of the Securities.

5.21. No Integrated Offering. Neither the Company nor any of its Affiliates, nor any Person acting on its or their behalf has, directly or indirectly, made any offers or sales of any Company security or solicited any offers to buy any security, under circumstances that would adversely affect reliance by the Company on Section 4(2) of the 1933 Act for the exemption from the registration requirements imposed under Section 5 of the 1933 Act for the transactions contemplated hereby or would require such registration the 1933 Act.

5.22. Private Placement. Subject to the accuracy of the representations and warranties of the Investors contained in Section 6 hereof, the offer and sale of the Securities to the Investors as contemplated hereby is exempt from the registration requirements of the 1933 Act.

5.23. Questionable Payments**.** Neither the Company nor any of its Subsidiaries nor, to the Company's Knowledge, any of their respective current or former stockholders, directors, officers, employees, agents or other Persons acting on behalf of the Company or any Subsidiary, has on behalf of the Company or any Subsidiary or in connection with their respective businesses: (a) used any corporate funds for unlawful contributions, gifts, entertainment or other unlawful expenses relating to political activity; (b) made any direct or indirect unlawful payments to any governmental officials or employees from corporate funds; (c) established or maintained any unlawful or unrecorded fund of corporate monies or other assets; (d) made any false or fictitious entries on the books and records of the Company or any Subsidiary; or (e) made any unlawful bribe, rebate, payoff, influence payment, kickback or other unlawful payment of any nature.

5.24. Transactions with Affiliates. Except as disclosed in SEC Filings made on or prior to the date hereof, none of the officers or directors of the Company or a Subsidiary and, to the Company's Knowledge, none of the employees of the Company is presently a party to any transaction with the Company or a Subsidiary or to a presently contemplated transaction (other than for services as employees, officers and directors) that would be required to be disclosed pursuant to Item 404 of Regulation S-B promulgated under the 1933 Act.

5.25. Trading Compliance. The Common Stock is traded on the OTCBB and the Company has taken no action designed to, or which to the Company's Knowledge is likely to have the effect of, causing the Common Stock not to continue to be traded on the OTCBB. No order ceasing or suspending trading in any securities of the Company or prohibiting the issuance and/or sale of the Securities is in effect and no proceedings for such purpose are pending or threatened.

6. Representations and Warranties of the Investors. Each of the Investors hereby severally, and not jointly, represents and warrants to the Company on and as of the Signing Date and on the applicable Closing Date, knowing and intending that the Company rely thereon, that:

6.1. Authorization. The execution, delivery and performance by the Investor of the Transaction Documents to which such Investor is a party have been duly authorized and will each constitute the valid and legally binding obligation of the Investor, enforceable against the Investor in accordance with their respective terms, subject to bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and similar laws of general applicability, relating to or affecting creditors' rights generally.

6.2. Purchase Entirely for Own Account. The Securities to be received by the Investor hereunder will be acquired for the Investor's own account, not as nominee or agent, and not with a view to the resale or distribution of any part thereof in violation of the 1933 Act, and the Investor has no present intention of selling, granting any participation in, or otherwise distributing the same in violation of the 1933 Act. The Investor is not a registered broker dealer or an entity engaged in the business of being a broker dealer.

6.3. Investment Experience. The Investor acknowledges that it can bear the economic risk and complete loss of its investment in the Securities and has such knowledge and experience in financial or business matters that it is capable of evaluating the merits and risks of the investment contemplated hereby. The Investor has significant experience in making private investments, similar to the purchase of the Securities hereunder.

6.4. Disclosure of Information. The Investor has had an opportunity to receive all additional information related to the Company requested by it and to ask questions of and receive answers from the Company regarding the Company, its business and the terms and conditions of the offering of the Securities. The Investor acknowledges receipt of copies of and its satisfactory review of the SEC Filings. Neither such inquiries nor any other due diligence investigation conducted by the Investor shall modify, amend or affect the Investor's right to rely on the Company's representations and warranties contained in this Agreement.

6.5. Restricted Securities. The Investor understands that the Securities are characterized as "restricted securities" under the U.S. federal securities laws inasmuch as they are being acquired from the Company in a transaction not involving a public offering and that under such laws and applicable regulations such securities may be resold without registration under the 1933 Act only in certain limited circumstances.

6.6. Legends.

(a) It is understood that, except as provided below, certificates evidencing such Securities may bear the following or any similar legend:

> "THE SECURITIES REPRESENTED HEREBY MAY NOT BE TRANSFERRED UNLESS (I) SUCH SECURITIES HAVE BEEN REGISTERED FOR SALE PURSUANT TO THE SECURITIES ACT OF 1933, AS AMENDED, OR (II) THE COMPANY HAS RECEIVED AN OPINION OF COUNSEL SATISFACTORY TO IT THAT SUCH TRANSFER MAY LAWFULLY BE MADE WITHOUT REGISTRATION UNDER THE SECURITIES ACT OF 1933 OR QUALIFICATION UNDER APPLICABLE STATE SECURITIES LAWS."

(b) If required by the authorities of any state in connection with the issuance of sale of the Securities, the legend required by such state authority.

(c) From and after the first anniversary of the Closing Date in the case of the Conversion Shares and the first anniversary of the date of exercise of a Warrant (or, in the case of a "cashless" exercise, the first anniversary of the Closing Date) in the case of the Warrant Shares, provided, in each case, that the Investor is not an affiliate of the Company and has not been an affiliate for a period of ninety days, the Company shall, upon an Investor's written request, promptly cause certificates evidencing such Securities to be replaced with certificates which do not bear such restrictive legends. When the Company is required to cause unlegended certificates to replace previously issued legended certificates, if unlegended certificates are not delivered to an Investor within three (3) Business Days of submission by that Investor of legended certificate(s) to the Company's transfer agent together with a representation letter in customary form, the Company shall be liable to the Investor for liquidated damages equal to 1.5% of the aggregate purchase price of the Securities evidenced by such certificate(s) for each 30-day period (or portion thereof) beyond such three (3) Business Day-period that the unlegended certificates have not been so delivered.

(d) Each Investor, severally and not jointly with the other Investors, agrees that the removal of the restrictive legend from certificates representing Securities as set forth in this Section 6.6 is predicated upon the warranty of the Investors to sell any Securities pursuant to either the registration requirements of the Securities Act, including any applicable prospectus delivery requirements, or an exemption therefrom.

6.7. Accredited Investor. The Investor is an "accredited investor" as defined in Rule 501(a) of Regulation D, as amended, under the 1933 Act.

6.8. No General Solicitation. The Investor did not learn of the investment in the Securities as a result of any "general advertising" or "general solicitation" as those terms are contemplated in Regulation D, as amended, under the 1933 Act.

6.9. Brokers and Finders. No Person will have, as a result of the transactions contemplated by this Agreement, any valid right, interest or claim against or upon the Company, any Subsidiary or any other Investor for any commission, fee or other compensation pursuant to any agreement, arrangement or understanding entered into by or on behalf of the Investor.

6.10 Cooperation. The Company agrees to use commercially reasonable efforts to cooperate with any Investor selling its Securities pursuant to Rule 144.

7. Exchange of Series B Preferred Stock and Related Matters.

7.1 Consent of Series B Investors. By executing this Agreement each of the holders (the "Series B Investors") of the Company's Series B Preferred Stock, hereby consents to the offer and issuance of the Preferred Stock and Warrants and the filing of the Certificate of Designations.

7.2 Exchange of Series B Stock for Preferred Stock. Each of the Series B Investors hereby agrees to exchange all of the shares of Series B Preferred Stock owned by such Series B Investor for the number of shares of Preferred Stock set forth opposite such Series B Investor's name on Schedule III hereto (the "Exchange"). The Exchange shall be effective upon the Closing (with no further action required by the Company or the Series B Investors) and each share of Series B Preferred Stock will automatically convert into 1 share of Preferred Stock. Following the Closing, at the request of any Series B Investor, the Company will issue new stock certificates for shares of Preferred Stock in replacement of the existing Series B Preferred Stock certificates. For the avoidance of doubt, each Series B Investor will be entitled to receive its accrued but unpaid dividends with respect to such Series B Preferred Stock through the day immediately preceding the date of the Exchange.

7.3 Waiver of Liquidated Damages. Each of the Series B Investors is a party to a Registration Rights Agreement dated as of May 2, 2007 (the "Prior Registration Agreement") which provided for registration rights with respect to the 22,500,000 shares of Common Stock issuable upon conversion of the Series B Preferred Stock and 7,500,000 shares of Common Stock issuable upon exercise of warrants dated May 2, 2007 (the "**Series B Warrants**"). Pursuant to Section 7(a) of the Prior Registration Agreement, each of the Series B Investors hereby waive any and all liquidated damages arising under Section 2 of the Prior Registration Agreement during the period from September 7, 2007 through the date of this Agreement as a result of the Company's failure to register 7,500,000 shares of common stock issuable upon exercise of the Series B Warrants and 3,000,000 shares of common stock issuable upon conversion of the Series B Preferred Stock.

8. Conditions to Closing.

8.1. Conditions to the Investors' Obligations. The obligation of the Investors to purchase the Securities at Closing is subject to the fulfillment to the Investors' satisfaction, on or prior to the Closing Date, of the following conditions, any of which may be waived in writing by the Investors:

(a) The representations and warranties made by the Company in Section 5 hereof that are qualified as to materiality shall be true and correct in all respects, and those not so qualified shall be true and correct in all material respects, at all times prior to and on the Closing Date. The Company shall have performed in all material respects all obligations herein required to be performed or observed by it on or prior to the relevant Closing Date;

(b) The Company shall have obtained in a timely fashion any and all consents, permits, approvals, registrations and waivers necessary or appropriate for consummation of the purchase and sale of the Securities then being issued and sold, and all of which shall be and remain so long as necessary in full force and effect;

(c) The Company shall have executed and delivered a counterpart to the Registration Rights Agreement to the Investors.

(d) No judgment, writ, order, injunction, award or decree of or by any court, or judge, justice or magistrate, including any bankruptcy court or judge, or any order of or by any governmental authority, shall have been issued, and no action or proceeding shall have been instituted by any governmental authority, or self-regulatory organization enjoining or preventing the consummation of the transactions contemplated hereby or in the other Transaction Documents;

(e) The Company shall have delivered a Certificate, executed on behalf of the Company by its Chief Executive Officer or its Chief Financial Officer, dated as of the Closing Date, certifying to the fulfillment of the conditions specified in subsections (a), (b), (d) and (h) of this Section 8.1;

(f) The Company shall have delivered a Certificate, executed on behalf of the Company by its Secretary, dated as of the Closing Date, certifying the resolutions adopted by the Board of Directors of the Company approving the transactions contemplated by this Agreement and the other Transaction Documents and the issuance and sale of the Securities, certifying the current versions of the Certificate of Incorporation and Bylaws of the Company and certifying as to the signatures and authority of persons signing the Transaction Documents and all related documents on behalf of the Company;

(g) [Reserved].

(h) The Company shall have delivered to the Investors a duly executed consent from the holders of the Company's Series C Convertible Preferred Stock, dated on or before the Closing Date, whereby such holders consent to issuance of the Preferred Stock and the filing of the Certificate of Designations, substantially in the form attached hereto as Exhibit A.

(i) The Investors shall have received the applicable Company Counsel Opinion;

(j) No stop order or suspension of trading shall have been imposed by any Person with respect to public trading in the Common Stock;

(k) The Company shall have delivered evidence satisfactory to the Investors of the filing of the Certificate of Designations with the Secretary of State of the State of Delaware; and

(l) The Escrow Amount shall, as of the Closing, equal or exceed the Investment Amount.

(m) The Company shall have delivered to the Series B Investors a duly executed amendment to the Series B Warrants, dated on or before the Closing Date, substantially in the form attached hereto as Exhibit C.

(n) The Company shall have delivered to the Series B Investors a duly executed amendment to the Prior Registration Agreement, dated on or before the Closing Date, substantially in the form attached hereto as Exhibit F.

8.2. Conditions to Obligations of the Company. The Company's obligation to sell and issue the Securities at Closing is subject to the fulfillment to the satisfaction by the Company on or prior to the Closing Date of the following conditions, any of which may be waived in writing by the Company:

(a) [Reserved].

(b) The representations and warranties made by the Investors in Section 6 hereof that are qualified as to materiality shall be true and correct in all respects, and those not so qualified shall be true and correct in all material respects, at all times prior to and on the Closing Date. The Investors shall have performed in all material respects all obligations herein required to be performed or observed by it on or prior to the relevant Closing;

(c) The Investors shall have executed and delivered the Registration Rights Agreement to the Company;

(d) Each of the Investors shall have delivered to Lead Investor Counsel the "Closing Purchase Price" set forth opposite such Investor's name on **Schedule I** affixed hereto;

(e) No judgment, writ, order, injunction, award or decree of or by any court, or judge, justice or magistrate, including any bankruptcy court or judge, or any order of or by any governmental authority, shall have been issued, and no action or proceeding shall have been instituted by any governmental authority, or self-regulatory organization enjoining or preventing the consummation of the transactions contemplated hereby or in the other Transaction Documents; and

(f) The Series B Investors shall have delivered to the Company a duly executed amendment to the Series B Warrants, dated on or before the Closing Date, substantially in the form attached hereto as Exhibit C.

(g) The Series B Investors shall have delivered to the Company a duly executed amendment to the Prior Registration Agreement, dated on or before the Closing Date, substantially in the form attached hereto as Exhibit F.

9. Covenants and Agreements of the Company**.**

9.1. Reservation of Common Stock. The Company shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of providing for the conversion of the Preferred Stock and the exercise of the Warrants, such number of shares of Common Stock as shall from time to time equal 100% of the number of shares sufficient to permit the conversion of the Preferred Stock and the exercise of the Warrants issued pursuant to this Agreement in accordance with their respective terms, without regard to any exercise limitations contained therein.

9.2. [Reserved]

9.3. No Conflicting Agreements. The Company will not take any action, enter into any agreement or make any commitment that would conflict or interfere in any material respect with the Company's obligations to the Investors under the Transaction Documents.

9.4. Insurance. The Company shall not materially reduce the insurance coverages described in Section 5.18.

9.5. Compliance with Laws. The Company will comply in all material respects with all applicable laws, rules, regulations, orders and decrees of all governmental authorities, except to the extent non-compliance would not have a Material Adverse Effect.

9.6. Termination of Certain Covenants. The provisions of Sections 9.2 through 9.5 shall terminate and be of no further force and effect upon the date on which the Company's obligations under the Registration Rights Agreement to register and maintain the effectiveness of any registration statement covering the Registrable Securities (as such term is defined in the Registration Rights Agreement) shall terminate. The provisions of Sections 9.7 through 9.16 shall survive indefinitely.

9.7 Board/Observer Rights.

(a) From and after the Closing until such time as the Xmark Entities are no longer Requisite Holders, the Xmark Entities shall have the right to designate one (1) member to the Company's Board of Directors (the "**Lead Investor Director**"). The Company shall use its best efforts to cause the Lead Investor Director to be elected to the Company's Board of Directors. The Xmark Entities shall have the right to remove or replace the Lead Investor Director by giving notice to such Lead Investor Director and the Company, and the Company shall use its best efforts to effect the removal or replacement of any such Lead Investor Director. Subject to any limitations imposed by applicable law, the Lead Investor Director shall be entitled to the same perquisites, including stock options, reimbursement of expenses and other similar rights in connection with such person's membership on the Board of Directors of the Company, as every other non-employee member of the Board of Directors of the Company.

(b) From and after the Closing until such time as the Lead Investors are no longer Requisite Holders the Lead Investors shall have the right to designate one (1) observer to attend all meetings of the Company's Board of Directors, committees thereof and access to all information made available to members of the Board (the "**Lead Investor Observer**"). The Lead Investor Observer shall have the same rights as those who customarily attend such position. Notwithstanding the foregoing, the Company reserves the right to exclude the Lead Investor Observer from access to any material, meeting or portion thereof if the Company believes, based on an opinion from its counsel, that such exclusion is necessary to preserve attorney-client, work product or similar privilege. The Lead Investor Observer shall hold in confidence and trust and not use or disclose any confidential information provided to or learned by him or her in connection with the Lead Investor Observer's rights hereunder for any purpose other than the monitoring and administration of the transactions contemplated hereby, unless otherwise required by law, so long as such information is not in the public domain. If requested by the Company, the Lead Investor Observer shall execute a standard confidentiality agreement prior to attending any meetings.

9.8 Affirmative Covenants. From and after the Signing Date until the Escrow Termination Date (after taking into account any extensions of the Escrow Termination Date)(the "**Covenant Expiration Event**"), the Company shall (and shall cause its Subsidiaries to):

(a) use its best efforts to consummate the Closing on or before the Escrow Termination Date;

(b) use its best efforts to keep in full force and effect its corporate existence and all material rights, franchises, intellectual property rights and goodwill relating or pertaining to its businesses;

(c) conduct its operations only in the ordinary course of business consistent with past practice;

(d) maintain its books, accounts and records in accordance with past practice or as required by generally accepted accounting principles;

(e) duly pay and discharge, or cause to be paid and discharged, before the same shall become overdue, all taxes, assessments and other governmental charges imposed upon it and its properties (real and personal), sales and activities, or any part thereof, or upon the income or profits therefrom, as well as all claims for labor, materials, or supplies that if unpaid could reasonably be expected to by law become a lien on any of its property; provided that any such tax, assessment, charge, levy or claim need not be paid if the validity or amount thereof shall currently be contested in good faith by appropriate proceedings and if the Company or any Subsidiary shall have set aside on its books adequate reserves with respect thereto in accordance with generally accepted accounting principals, consistently applied; and provided, further that it pay all such taxes, assessments, charges, levies or claims forthwith upon the commencement of proceedings to foreclose any lien or other encumbrance that may have attached as security therefore;

(f) use its best efforts to obtain all authorizations, consents, waivers, approvals or other actions and to make all filings and applications necessary or desirable to consummate the transactions contemplated hereby and to cause the conditions to the obligation to close to be satisfied;

(g) promptly notify the Investors in writing if, to the Company's Knowledge, (i) any of the representations and warranties (together with the Disclosure Schedules) made by it herein or in any of the other Transaction Document cease to be accurate and complete in all material respects, or (ii) it fails to comply with or satisfy any material covenant, condition or agreement to be complied with or satisfied by it hereunder or under any other Transaction Document;

(h) give notice to the Investors in writing within three (3) days of becoming aware of any litigation or proceedings threatened in writing against the Company or any of its Subsidiaries or any of its directors or officers or any pending litigation and proceedings affecting the Company or any of its Subsidiaries or any of its directors or officers or to which any of them is or becomes a party involving a claim against any of them, stating the nature and status of such litigation or proceedings, provided, however, that the Investors shall not be provided with material non-public information without their express prior written consent;

(i) promptly notify the Investors in writing of the occurrence of any breach of any term of this Agreement; and

(j) comply in all material respects with (i) the applicable laws and regulations wherever its business is conducted, (ii) the provisions of its Certificate of Incorporation and Bylaws, (iii) all material agreements by which the Company, its Subsidiaries or any of their respective properties may be bound, and (iv) all applicable decrees, orders, and judgments.

9.9 Negative Covenants. From and after the Signing Date until the occurrence of the Covenant Expiration Event, without the prior written consent of the Investors, the Company shall not (and shall cause its respective Subsidiaries not to):

(a) take any action that would likely result in the representations and warranties set forth herein (other than representations made as of a particular date) becoming false or inaccurate in any material respect (or, as to representations and warranties, which, by their terms, are qualified as to materiality, becoming false or inaccurate in any respect);

(b) take or omit to be taken any action, or permit any of its Affiliates to take or to omit to take any action, which would reasonably be expected to result in a Material Adverse Effect;

(c) directly or indirectly, merge or consolidate with any Person, or sell, transfer, lease or otherwise dispose of all or any substantial portion of its assets in one transaction or a series of related transactions,

(d) except for the filing of the Certificate of Designations, amend, alter or modify, its Certificate of Incorporation or Bylaws, or change its jurisdiction of organization, structure, status or existence, or liquidate or dissolve itself;

(e) (i) increase the compensation or benefits payable or to become payable to its directors, officers or employees other than pursuant to the terms of any agreement as in effect on the Signing Date, (ii) pay any compensation or benefits not required by any existing plan or arrangement (including the granting of stock options, stock appreciation rights, shares of restricted stock or performance units) or grant any severance or termination pay to (except pursuant to existing agreements, plans or policies), or enter into any employment or severance agreement with, any director, officer or other employee, or (iii) establish, adopt, enter into, amend or take any action to accelerate rights under any collective bargaining, bonus, profit sharing, thrift, compensation, stock option, restricted stock, pension, retirement, savings, welfare, deferred compensation, employment, termination, severance or other employee benefit plan, agreement, trust, fund, policy or arrangement for the benefit or welfare of any directors, officers or current or former employees, except in each case to the extent required by applicable law;

(f) make any loans to its directors, officers or stockholders;

(g) waive, release, assign, settle or compromise any material rights, claims or litigation;

(h) create, incur, assume or suffer to exist, or increase the amount of, any liability for borrowed money, directly or indirectly other than: (i) indebtedness existing on the date hereof; and (ii) purchase money indebtedness of the Company (including, without limitation, capital leases to the extent secured by purchase money security interests in equipment acquired pursuant thereto);

(i) assume, endorse, be or become liable for or guaranty the obligations of any other Person except in the ordinary course of business;

(j) directly or indirectly, pay any dividends (other than quarterly and semi-annual dividend payments in accordance with Series B and Series C Certificates of Designations) or distributions on, or purchase, redeem or retire, any shares of any class of its capital stock or other equity interests or any securities convertible into capital stock, whether now or hereafter outstanding, or make any payment on account of or set apart assets for a sinking or other analogous fund for, the purchase, redemption, defeasance, retirement or other acquisition of its capital stock or other equity interests, or make any other distribution in respect thereof, either directly or indirectly, whether in cash or property or in obligations of the Company or any of its Subsidiaries;

(k) enter into any transaction with any Affiliates or its or any of its Affiliate's equity holders, directors, officers, employees (including upstreaming and downstreaming of cash and intercompany advances and payments) in an amount in excess of $25,000 in the aggregate or amend any material provision of any agreement with any Affiliate, or waive any material right of the Company or any Subsidiary under any such agreement;

(l) at any time create any direct or indirect Subsidiary, enter into any joint venture or similar arrangement or become a partner in any general or limited partnership or enter into any management contract permitting third party management rights with respect to the business of the Company or any of its Subsidiaries;

(m) cancel any liability or debt owed to it, except for consideration equal to or exceeding the outstanding balance of such liability or debt, and in any event, in the ordinary course of business;

(n) create, incur, assume or suffer to exist, any lien, charge or other encumbrance on any of their or its respective properties or assets now owned or hereafter acquired;

(o) make any changes in any of its business objectives, purposes, or operations or engage in any business other than that presently engaged in or presently proposed to be engaged in by the Company;

(p) issue any capital stock or any security or instrument which, pursuant to its terms, may be converted, exercised or exchanged for capital stock, other than upon the conversion or exercise of any presently outstanding options, warrants or convertible securities; or

(q) enter into an agreement to do any of the foregoing.

9.10. [Reserved]

9.11. Trading. The Company shall promptly following the date hereof secure and maintain the listing of the Conversion Shares and the Warrant Shares upon each securities exchange or quotation system upon which the Common Stock is then traded, so that as of the relevant Closing Date such Conversion Shares and Warrant Shares shall have been authorized for trading on the relevant securities exchange or quotation system.

9.12. Use of Proceeds. The Company will use the proceeds from the sale of the Securities for general corporate purposes, and not for (i) the repayment of any outstanding indebtedness for borrowed money of the Company or any of its Subsidiaries or (ii) redemption or repurchase of any of its or its Subsidiaries' equity securities.

9.13. Press Release. On or before 9:00 a.m., New York City time, on the first Business Day following the date of this Agreement, the Company shall issue a press release, which shall have been reviewed and approved by the Investors, announcing the transactions contemplated by the Transaction Documents (the "**Press Release**"). In addition, the Company will file a Current Report on Form 8-K with the SEC describing the terms of the Transaction Documents (and including as exhibits to such Current Report on Form 8-K the material Transaction Documents (including, without limitation, this Agreement, the form of Registration Rights Agreement and the form of Warrant)). Without any such Investor's prior consent, the Company agrees not to disclose in the Press Release the names, addresses or any other information about an Investor, except as required by law and to satisfy its obligations under the Registration Rights Agreement.

9.14. Furnishing of Information. As long as any Investor owns Securities, the Company covenants to timely file (or obtain extensions in respect thereof and file within the applicable grace period) all reports required to be filed by the Company after the date hereof pursuant to the 1934 Act. As long as any Investor owns Preferred Shares, Warrants or the Warrant Shares, if the Company is not required to file reports pursuant to such laws, it will prepare and furnish to the Investors and make publicly available in accordance with Rule 144(c) promulgated by the SEC pursuant to the 1933 Act, as such Rule may be amended from time to time, such information as is required for the Investors to sell the Preferred Shares and Warrant Shares under Rule 144 promulgated by the SEC pursuant to the 1933 Act, as such Rule may be amended from time to time ("**Rule 144**"). The Company further covenants that it will take such further action as any holder of Preferred Shares, Warrants or the Warrant Shares may reasonably request, all to the extent required from time to time to enable such Person to sell the Preferred Shares and Warrant Shares without registration under the 1933 Act within the limitation of the exemptions provided by Rule 144.

9.15. Buy-In. If the Company shall fail for any reason or for no reason to issue to an Investor unlegended certificates within three (3) Business Days of receipt of documents necessary for the removal of the legend set forth above (the "**Deadline Date**"), then, in addition to all other remedies available to such Investor, if on or after the Business Day immediately following such three (3) Business Day period, such Investor or Investor's broker, acting on behalf of such Investor, purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the holder of shares of Common Stock that such Investor anticipated receiving from the Company without any restrictive legend, then the Company shall, within three (3) Business Days after such Investor's request and in such Investor's sole discretion, either (i) pay cash to the Investor in an amount equal to such Investor's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased (the "**Buy-In Price**"), at which point the Company's obligation to deliver such certificate (and to issue such shares of Common Stock) shall terminate, or (ii) promptly honor its obligation to deliver to such Investor a certificate or certificates representing such shares of Common Stock and pay cash to the Investor in an amount equal to the excess (if any) of the Buy-In Price over the product of (a) such number of shares of Common Stock, times (b) the closing bid price on the Deadline Date.

9.16 Limited Participation Right. In the event the Requisite Holders approve an amendment to the Certificate of Designations which materially adversely affects all of the Investors, and if, during the twelve (12) month period following such amendment, the Company agrees to sell, offers for sale or solicits offers to buy its securities in a transaction in which one or more Lead Investors participates, the Company shall provide notice of such transaction to each Investor who held shares of Preferred Stock on the date of such amendment and on the date of such transaction (each, an "Eligible Investor") and shall give each Eligible Investor the right to participate in such transaction on a pro rata basis among the participating Lead Investors and the Eligible Investors (based upon the number of shares of Preferred Stock held by the Investors participating in the transaction at the time of such transaction).

10. Survival and Indemnification.

10.1. Survival. Subject to Section 9.6, all representations, warranties, covenants and agreements contained in this Agreement shall be deemed to be representations, warranties, covenants and agreements as of the date hereof and shall survive the Closing Date until the third anniversary thereof; provided, however, that the provisions contained in: (a) Sections 3.2, 5.4, 10.1, 10.2 and 10.3 hereof shall survive indefinitely; and (b) Sections 5.10 and 5.15 shall survive until 90 days after the applicable statute of limitations.

10.2. Indemnification. The Company agrees to indemnify and hold harmless, each Investor and its Affiliates and the directors, officers, employees and agents of each Investor and its Affiliates, from and against any and all losses, claims, damages, liabilities and expenses (including without limitation reasonable attorney fees and disbursements and other expenses incurred in connection with investigating, preparing or defending any action, claim or proceeding, pending or threatened and the costs of enforcement hereof) (collectively, "**Losses**") to which such Person may become subject as a result of any breach of representation, warranty, covenant or agreement made by, or to be performed on the part of, the Company under the Transaction Documents, and will reimburse any such Person for all such amounts as they are incurred by such Person.

10.3. Conduct of Indemnification Proceedings. Promptly after receipt by any Person (the "**Indemnified Person**") of notice of any demand, claim or circumstances which would or might give rise to a claim or the commencement of any action, proceeding or investigation in respect of which indemnity may be sought pursuant to Section 10.2, such Indemnified Person shall promptly notify the Company in writing and the Company shall assume the defense thereof, including the employment of counsel reasonably satisfactory to such Indemnified Person, and shall assume the payment of all fees and expenses; provided, however, that the failure of any Indemnified Person so to notify the Company shall not relieve the Company of its obligations hereunder except to the extent that the Company is actually and materially prejudiced by such failure to notify. In any such proceeding, any Indemnified Person shall have the right to retain its own counsel, but the fees and expenses of such counsel shall be at the expense of such Indemnified Person unless: (i) the Company and the Indemnified Person shall have mutually agreed to the retention of such counsel; (ii) in the reasonable judgment of counsel to such Indemnified Person (A) representation of both parties by the same counsel would be inappropriate due to actual or potential differing interests between them, or (B) the Company shall have failed to promptly assume the defense of such proceeding. The Company shall not be liable for any settlement of any proceeding effected without its written consent, which consent shall not be unreasonably withheld, delayed or conditioned, but if settled with such consent, or if there be a final judgment for the plaintiff, the Company shall indemnify and hold harmless such Indemnified Person from and against any Losses by reason of such settlement or judgment. Without the prior written consent of the Indemnified Person, which consent shall not be unreasonably withheld, delayed or conditioned, the Company shall not effect any settlement of any pending or threatened proceeding in respect of which any Indemnified Person is or could have been a party and indemnity could have been sought hereunder by such Indemnified Party, unless such settlement includes an unconditional release of such Indemnified Person from all liability arising out of such proceeding.

11. Miscellaneous.

11.1. Successors and Assigns. This Agreement may not be assigned by a party hereto without the prior written consent of the Company and the Investors; provided, however, that an Investor may assign its rights and delegate its duties hereunder in whole or in part to an Affiliate or to a third party acquiring some or all of its Securities in a private transaction without the prior written consent of the Company or the other Investors, after notice duly given by such Investor to the Company; provided, that no such assignment or obligation shall affect the obligations of such Investor hereunder. The provisions of this Agreement shall inure to the benefit of and be binding upon the respective permitted successors and assigns of the parties. Except for the Investor Counsel, which is an express intended third party beneficiary of this Agreement, and except for provisions of this Agreement expressly to the contrary, nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement.

11.2. Counterparts; Faxes. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Agreement may also be executed via facsimile, which shall be deemed an original.

11.3. Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

11.4. Notices. Unless otherwise provided, any notice required or permitted under this Agreement shall be given in writing and shall be deemed effectively given as hereinafter described (i) if given by personal delivery, then such notice shall be deemed given upon such delivery, (ii) if given by telex or telecopier, then such notice shall be deemed given upon receipt of confirmation of complete transmittal, (iii) if given by mail, then such notice shall be deemed given upon the earlier of (A) receipt of such notice by the recipient or (B) three (3) Business Days after such notice is deposited in first class mail, postage prepaid, and (iv) if given by a nationally recognized overnight air courier, then such notice shall be deemed given one (1) Business Day after delivery to such carrier. All notices shall be addressed to the party to be notified at the address as follows, or at such other address as such party may designate by ten (10) days' advance written notice to the other party:

If to the Company:

Novelos Therapeutics, Inc.
One Gateway Center, Suite 504
Newton, MA 02458
Attention: Chief Executive Officer
Fax: (617) 964-6331

With a copy to:

Foley Hoag LLP
Seaport World Trade Center West
155 Seaport Boulevard
Boston, MA 02210
Attn: Paul Bork
Fax: (617) 832-7000

If to any of the Investors:

to the addresses set forth on **Schedule I** affixed hereto.

With a copy to:

Lowenstein Sandler PC
1251 Avenue of the Americas
New York, NY 10020
Attn: Steven E. Siesser, Esq.
Fax: (973) 597-2507

11.5. Expenses. The Company shall pay the Lead Investors for their reasonable out-of-pocket expenses, including the reasonable fees and expenses of Lead Investor Counsel in connection with the Private Placement (which Lead Investor Counsel Fees shall include, without limitation, the fees and expenses associated with the negotiation, preparation and execution and delivery of this Agreement and the other Transaction Documents and any amendments, modifications or waivers thereto)(the "**Lead Investor Counsel Fees**"), in an amount not to exceed $25,000 through the Closing Date. The Lead Investor Counsel Fees shall be paid to Lead Investor Counsel on the Closing Date by release to Lead Investor Counsel of the portion of the Escrow Amount equal to the Lead Investor Counsel Fees applicable to such Closing Date. Except as set forth above, the Company and the Investors shall each bear their own expenses in connection with the negotiation, preparation, execution and delivery of this Agreement. In the event that legal proceedings are commenced by any party to this Agreement against another party to this Agreement in connection with this Agreement or the other Transaction Documents, the party or parties which do not prevail in such proceedings shall severally, but not jointly, pay their pro rata share of the reasonable attorneys' fees and other reasonable out-of-pocket costs and expenses incurred by the prevailing party in such proceedings.

11.6. Amendments and Waivers. This Agreement shall not be amended and the observance of any term of this Agreement shall not be waived (either generally or in a particular instance and either retroactively or prospectively) without the prior written consent of the Company and the Requisite Holders; provided, however, that any provision affecting the rights or obligations of Investor Counsel, shall not be waived or amended without the prior written consent of the Investor Counsel. Any amendment or waiver effected in accordance with this Section 11.6 shall be binding upon each holder of any Securities purchased under this Agreement at the time outstanding, each future holder of all such Securities, and the Company.

11.7. Publicity. Except as provided in Section 9.13, No public release or announcement concerning the transactions contemplated hereby shall be issued by the Company or the Investors without the prior consent of the Company (in the case of a release or announcement by the Investors) or the Lead Investors, as representative of the Investors (in the case of a release or announcement by the Company) (which consents shall not be unreasonably withheld), except as such release or announcement may be required by law or the applicable rules or regulations of any securities exchange or securities market on which the Securities are then listed and trading, in which case the Company or the Lead Investors, as the case may be, shall allow the Investors or the Company, as applicable, to the extent reasonably practicable in the circumstances, reasonable time to comment on such release or announcement in advance of such issuance.

11.8. Severability. Any provision of this Agreement that is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof but shall be interpreted as if it were written so as to be enforceable to the maximum extent permitted by applicable law, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction. To the extent permitted by applicable law, the parties hereby waive any provision of law which renders any provision hereof prohibited or unenforceable in any respect.

11.9. Entire Agreement. This Agreement, including the Exhibits and Disclosure Schedules, and the other Transaction Documents constitute the entire agreement among the parties hereof with respect to the subject matter hereof and thereof and supersede all prior agreements and understandings, both oral and written, between the parties with respect to the subject matter hereof and thereof. Prior drafts or versions of this Agreement shall not be used to interpret this Agreement.

11.10. Further Assurances. The parties shall execute and deliver all such further instruments and documents and take all such other actions as may reasonably be required to carry out the transactions contemplated hereby and to evidence the fulfillment of the agreements herein contained.

11.11. Governing Law; Consent to Jurisdiction. This Agreement shall be governed by, and construed in accordance with, the internal laws of the State of New York without regard to the choice of law principles thereof. Each of the parties hereto irrevocably submits to the exclusive jurisdiction of the courts of the State of New York located in New York County and the United States District Court for the Southern District of New York for the purpose of any suit, action, proceeding or judgment relating to or arising out of this Agreement and the transactions contemplated hereby. Service of process in connection with any such suit, action or proceeding may be served on each party hereto anywhere in the world by the same methods as are specified for the giving of notices under this Agreement. Each of the parties hereto irrevocably consents to the jurisdiction of any such court in any such suit, action or proceeding and to the laying of venue in such court. Each party hereto irrevocably waives any objection to the laying of venue of any such suit, action or proceeding brought in such courts and irrevocably waives any claim that any such suit, action or proceeding brought in any such court has been brought in an inconvenient forum. **THE COMPANY AND EACH OF THE INVESTORS HEREBY IRREVOCABLY WAIVES ANY AND A L L RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING RELATING TO OR ARISING OUT OF THIS AGREEMENT AND THE TRANSACTIONS CONTEMPLATED HEREBY.**

[signature page follows]

Company Signature Page

I N WITNESS WHEREOF, the undersigned has executed this Securities Purchase Agreement or caused its duly authorized officers to execute this Securities Purchase Agreement as of the date first above written.

NOVELOS THERAPEUTICS, INC.

By: /s/ Harry S. Palmin
Name: Harry S. Palmin
Title: President and CEO

Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Securities Purchase Agreement or caused its duly authorized officers to execute this Securities Purchase Agreement as of the date first above written.

Date: March 26, 2008

Xmark Opportunity Fund, Ltd.
Name of entity

By: Xmark Opportunity Manager, LLC,
its Investment Manager

By: Xmark Opportunity Partners, LLC,
its Sole Member

By: Xmark Capital Partners, LLC,
its Managing Member

By: /s/ Mitchell D. Kaye

Name: Mitchell D. Kaye
Title: Chief Executive Officer

Cayman Islands
Jurisdiction of organization of entity

Address:

90 Grove Street
Ridgefield, CT 06877

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement:

Closing Price:	$ 850,000

Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Securities Purchase Agreement or caused its duly authorized officers to execute this Securities Purchase Agreement as of the date first above written.

March 26, 2008

Xmark Opportunity Fund, L.P.
Name of entity

By: Xmark Opportunity GP, LLC
its General Partner

By: Xmark Opportunity Partners, LLC,
its Sole Member

By: Xmark Capital Partners, LLC,
its Managing Member

By: /s/ Mitchell D. Kaye

Name: Mitchell D. Kaye
Title: Chief Executive Officer

Delaware
Jurisdiction of organization of entity

Address:

90 Grove Street
Ridgefield, CT 06877

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement:

Closing Price:	$ 450,000

The undersigned is signatory to this Securities Purchase Agreement for purposes of Section 7 only.

Date: March 26, 2008

Xmark JV Investment Partners, LLC
Name of entity

By: Xmark Opportunity Partners, LLC
its Investment Manager

By: Xmark Capital Partners, LLC,
its Managing Member

By: /s/ Mitchell D. Kaye

Name: Mitchell D. Kaye
Title: Chief Executive Officer

Address:

90 Grove Street
Ridgefield, CT 06877

Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Securities Purchase Agreement or caused its duly authorized officers to execute this Securities Purchase Agreement as of the date first above written.

Date: March 26, 2008

Caduceus Capital Master Fund Limited
Name of entity

By: /s/ Samuel D. Isaly

Name: Samuel D. Isaly
Title: Managing Partner, OrbiMed Advisors LLC

Print jurisdiction of organization of entity:

Address:
c/o OrbiMed Advisors LLC
767 Third Avenue, 30th Floor
New York, NY 10017

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement:

Closing Price:	$ 500,000.00

Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Securities Purchase Agreement or caused its duly authorized officers to execute this Securities Purchase Agreement as of the date first above written.

Date: March 26, 2008

IF A CORPORATION, PARTNERSHIP,
TRUST, ESTATE OR OTHER ENTITY:

Caduceus Capital II, L.P.
Name of entity

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Partner, OrbiMed Advisors LLC

Print jurisdiction of organization of entity:

Address:
c/o OrbiMed Advisors LLC
767 Third Avenue, 30th Floor
New York, NY 10017

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement:

Closing Price:	$ 600,000.00

Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Securities Purchase Agreement or caused its duly authorized officers to execute this Securities Purchase Agreement as of the date first above written.

Date: March 26, 2008

Summer Street Life Sciences Hedge Fund Investors LLC
Name of entity

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Partner, OrbiMed Advisors LLC

Print jurisdiction of organization of entity:

Address:
c/o OrbiMed Advisors LLC
767 Third Avenue, 30th Floor
New York, NY 10017

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement:

Closing Price:	$ 500,000.00

The undersigned are signatories to this Securities Purchase Agreement for purposes of Section 7 only.

Date: March 26, 2008

PW Eucalyptus Fund, Ltd.
UBS Eucalyptus Fund, L.L.C.

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Partner, OrbiMed Advisors LLC

Address:
c/o OrbiMed Advisors LLC
767 Third Avenue, 30th Floor
New York, NY 10017

Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Securities Purchase Agreement or caused its duly authorized officers to execute this Securities Purchase Agreement as of the date first above written.

Date: March 26, 2008

Knoll Capital Fund II Master Fund Ltd.
Name of entity

By: /s/ Fred Knoll
Name: Fred Knoll
Title: KOM Capital Management
Investment Manager

Print jurisdiction of organization of entity:

Address:
c/o KOM Capital Management
666 Fifth Avenue, Suite 3702,
New York, NY 10103

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement:

Closing Price:	$ 400,000.00

Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Securities Purchase Agreement or caused its duly authorized officers to execute this Securities Purchase Agreement as of the date first above written.

Date: March 26, 2008

Europa International, Inc.
Name of entity

By: /s/ Fred Knoll
Name: Fred Knoll
Title: Knoll Capital Management
Investment Manager for
Europa International, Inc.

Print jurisdiction of organization of entity

Address:
c/o Knoll Capital Management
666 Fifth Avenue, Suite 3702,
New York, NY 10103

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement:

Closing Price:	$ 1,000,000.00

Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Securities Purchase Agreement or caused its duly authorized officers to execute this Securities Purchase Agreement as of the date first above written.

Date: March 26, 2008

Hunt BioVenures, L.P.
Name of entity

By: HBV GP, L.L.C., its General Partner

By: /s/ J. Fulton Murray, III
Name: J. Fulton Murray, III, Manager

Jurisdiction of organization of entity: Delaware

Address:
Hunt Investments
1900 N. Akard
Dallas, TX 75201
Attn: Michael T. Bierman, J. Fulton Murray, III and Benjamin D. Nelson

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement:

Closing Price:	$ 700,000.00

SCHEDULE I
INVESTORS - CLOSING

Name of Investor	Closing Purchase Price	Number of Shares of Preferred Stock	Number of Warrants
Xmark Opportunity Fund, Ltd. 90 Grove Street Ridgefield, CT 06877 Attn: Mitchell D. Kaye	850,000.00	17	653,846
Xmark Opportunity Fund, L.P. 90 Grove Street Ridgefield, CT 06877 Attn: Mitchell D Kaye	450,000.00	9	346,154
Caduceus Capital Master Fund Limited c/o OrbiMed Advisors LLC 767 Third Avenue, 30th Floor New York, NY 10017 Attn: Jeff Comisarow	500,000.00	10	384,615
Caduceus Capital II, L.P. c/o OrbiMed Advisors LLC 767 Third Avenue, 30th Floor New York, NY 10017 Attn: Jeff Comisarow	600,000.00	12	461,538
Summer Street Life Sciences Hedge Fund Investors, LLC c/o OrbiMed Advisors LLC 767 Third Avenue, 30th Floor New York, NY 10017 Attn: Jeff Comisarow	500,000.00	10	384,615
Knoll Capital Fund II Master Fund, Ltd. c/o KOM Capital Management 666 Fifth Avenue, Suite 3702, New York, NY 10103 Attn: Fred Knoll	400,000.00	8	307,692
Europa International, Inc. c/o KOM Capital Management 666 Fifth Avenue, Suite 3702, New York, NY 10103 Attn: Fred Knoll	1,000,000.00	20	769,230
Hunt-BioVentures, L.P. 1900 N. Akard Dallas, TX 75201 Attn: Michael T. Bierman, J. Fulton Murray III, and Benjamin D. Nelson	700,000.00	14	538,461

SCHEDULE II

Lead Investor Counsel Wire Instructions
For Escrow Amount

Bank:	PNC Bank New Jersey Caldwell, NJ
ABA No.:	031207607
Account No.:	8025720174
For credit to:	Lowenstein Sandler PC Special Trust Account I

For International wires please use SWIFT Code: PNCCUS33

SCHEDULE III

Exchange of Series B Preferred Stock for Series D Preferred Stock

Name of Investor	Number of Shares of Series B Preferred Stock	Number of Shares of Series D Preferred Stock
Xmark Opportunity Fund, Ltd.	40	40
Xmark Opportunity Fund, L.P.	20	20
Xmark JV Investment Partners, LLC	20	20
Caduceus Capital Master Fund Limited	40	40
Caduceus Capital II, L.P.	26	26
UBS Eucalyptus Fund, L.L.C.	26	26
PW Eucalyptus Fund, Ltd.	3	3
Knoll Capital Fund II Master Fund, Ltd.	40	40
Europa International, Inc.	40	40
Hunt-BioVentures, L.P.	45	45

Exhibits

Exhibit A	Certificate of Designations
Exhibit B	Form of Warrant
Exhibit C	Form of Amendment to Series B Warrant
Exhibit D	Registration Rights Agreement
Exhibit E	Company Counsel Opinion
Exhibit F	Amendment to Registration Rights Agreement

Schedules

Schedule 5.1	Subsidiaries
Schedule 5.3	Capitalization
Schedule 5.5	Consents
Schedule 5.7(a)	Material Adverse Changes
Schedule 5.8(b)	SEC Filings
Schedule 5.9	Conflicts
Schedule 5.10	Taxes
Schedule 5.11	Title to Properties
Schedule 5.14(a)	Intellectual Property
Schedule 5.14(d)	IP Litigation
Schedule 5.19	Brokers and Finders

Exhibit A

Certificate of Designations

(See Exhibit 4.1 to this filing)

Exhibit B

Form of Warrant

(See Exhibit 4.3 to this filing)

Exhibit C

Form of Amendment to Series B Warrant

(See Exhibit 10.5 to this filing)

Exhibit D

Registration Rights Agreement

(See Exhibit 10.3 to this filing)

Exhibit E

Form of Company Counsel Opinion

1. The Company is a corporation validly existing and in good standing under the laws of the State of Delaware and has the requisite corporate power to own its property and assets, to conduct its business as it is currently being conducted and to enter into and perform its obligations under the Transaction Documents and the Certificate of Designations. The Company is qualified as a foreign corporation to do business and is in good standing in the Commonwealth of Massachusetts.

2. The execution, delivery and performance by the Company of the Transaction Documents, the issuance of the Preferred Stock and the Warrants, the issuance of the Preferred Shares upon due conversion of the Preferred Stock and the issuance of the Warrant Shares upon due exercise of the Warrants have been duly authorized by all requisite corporate action on the part of the Company and do not require any further approval of its directors or stockholders.

3. Each of the Transaction Documents has been duly executed and delivered by the Company and constitutes a valid and binding obligation of the Company, enforceable against the Company in accordance with its terms.

4. The Certificate of Designations has been filed with the Secretary of State of the State of Delaware and has become effective. The Preferred Stock has the relative rights, preferences and limitations set forth in the Certificate of Designations.

5. The execution and delivery by the Company of each of the Transaction Documents, the issuance of the Preferred Stock and Warrants, the issuance of the Preferred Shares upon due conversion of the Preferred Stock and the issuance of the Warrant Shares upon due exercise of the Warrants and the performance by the Company of the Transaction Documents will not violate or contravene or be in conflict with (a) any provision of the [Organizational Documents]; (b) any provision of the General Corporation Law of the State of Delaware and any provision of any federal or Massachusetts law, rule or regulation applicable to the Company in transactions of the nature contemplated by the Transaction Documents; (c) any order, judgment or decree of any court or other governmental agency which is known to us and which is binding on the Company or any of its property; (d) any agreement, indenture or other written agreement or understanding to which the Company or a Subsidiary is a party which has been identified as a material agreement in the officer's certificate attached hereto (collectively, "Material Agreements").

6. No further consents, approvals, authorizations, registrations, declarations or filings are required to be obtained or made by the Company from or with any federal or Massachusetts governmental authority or pursuant to the General Corporation Law of the State of Delaware or from any other Person under any Material Agreement in order for it to execute and deliver each of the Transaction Documents, to issue the Preferred Stock and Warrants, to issue the Preferred Shares upon due conversion of the Preferred Stock, to issue the Warrant Shares upon due exercise of the Warrants and to perform its obligations under the Transaction Documents, other than those consents, approvals, authorizations, registrations, declarations or filings that have already been obtained and remain in full force and effect and except for (a) the filing of a Form D (the "Form D") with the Securities and Exchange Commission pursuant to Regulation D promulgated under the Securities Act of 1933, as amended (the "Securities Act") and (b) the filing of the Form D with requisite state jurisdictions.

7. The shares of Common Stock issuable upon conversion of the Preferred Stock and exercise of the Warrants have been duly authorized and, upon issuance and delivery upon conversion of such Preferred Stock in accordance with the terms of the Purchase Agreement and exercise of such Warrants in accordance with the terms of the Warrants, will be validly issued, outstanding, fully paid and nonassessable. Other than as disclosed in the Purchase Agreement, and the Disclosure Schedules delivered in connection with the Purchase Agreement, there are no preemptive rights or, to the best of our knowledge, any options, warrants, conversion privileges or other rights presently outstanding to purchase any of the authorized but unissued capital stock of the Company.

8. Assuming the accuracy of the representations and warranties of the Purchasers set forth in Section 6 of the Purchase Agreement, the offer, issuance and sale to the Purchasers pursuant to the Purchase Agreement of (i) the Preferred Stock and Warrants, (ii) the Preferred Shares if the Preferred Stock were converted by the Purchasers on the date hereof and (iii) the Warrant Shares issuable upon exercise of the Warrants if the Warrants were exercised by the Purchasers on the date hereof, are exempt from the registration requirements of the Securities Act.

Exhibit F

Form of Amendment to Prior Registration Agreement

(See Exhibit 10.4 to this filing)

Schedule 5.1

Subsidiaries

None.

Schedule 5.3

Capitalization

5.3(a)(i) At the date hereof authorized capital stock of the Company consists of 150,000,000 shares of $.00001 par value common stock and 7,000 shares of preferred stock.

5.3(a)(ii) At the date hereof there are 39,360,272 shares of common stock outstanding and 572 shares of preferred stock outstanding.

5.3(a)(iii) At the date hereof there are 5,082,651 shares of common stock issuable pursuant to the Company's stock plans.

5.3(a)(iv) At the date hereof, the following shares are reserved for future issuance upon exercise of stock options or warrants or conversion of preferred stock:

2000 Stock Option Plan	73,873
2006 Stock Incentive Plan	2,555,000
Options issued outside of formalized plans	2,453,778
Warrants	28,973,047
Preferred stock	22,014,000
Total shares reserved for future issuance	56,069,698

Schedule 5.3 (continued)

5.3(a) Other

The following is a listing of documents available on EDGAR that contain the rights of Novelos security holders at the date hereof:

Document Description	Filed with Form	Filing Date	Exhibit No.
Certificate of Incorporation	8-K	June 17, 2005	1
Certificate of Designations of Series B convertible preferred stock	10-QSB	May 8, 2007	3.2
Certificate of Designations of Series C cumulative convertible preferred stock	10-QSB	May 8, 2007	3.2
By-laws	8-K	June 17, 2005	2
2000 Stock Option and Incentive Plan	SB-2	November 16, 2005	10.2
Form of 2004 non-plan non-qualified stock option	SB-2	November 16, 2005	10.3
Form of non-plan non-qualified stock option used from February to May 2005	SB-2	November 16, 2005	10.4
Form of non-plan non-qualified stock option used after May 2005	SB-2	November 16, 2005	10.5
Form of common stock purchase warrant issued in March 2005	SB-2	November 16, 2005	10.6
Form of securities purchase agreement dated May 2005	8-K	June 2, 2005	99.1
Form of subscription agreement dated September 30, 2005	8-K	October 3, 2005	99.1
Form of Class A common stock purchase warrant dated September 30, 2005	8-K	October 3, 2005	99.3
Form of share escrow agreement	8-K	November 3, 2005	10.3
Consideration and new technology agreement dated April 1, 2005 with ZAO BAM	10-QSB	August 15, 2005	10.2
Letter agreement dated March 31, 2005 with The Oxford Group, Ltd.	10-QSB	August 15, 2005	10.3
Form of securities purchase agreement dated March 2, 2006	8-K	March 3, 2006	99.2
Form of common stock purchase warrant dated March 2006	8-K	March 3, 2006	99.3
2006 Stock Incentive Plan	10-QSB	November 6, 2006	10.1
Form of Incentive Stock Option under Novelos Therapeutics, Inc.'s 2006 Stock Incentive Plan	8-K	December 15, 2006	10.1

Form of Non-Statutory Stock Option under Novelos Therapeutics, Inc.'s 2006 Stock Incentive Plan	8-K	December 15, 2006	10.2
Form of Non-Statutory Director Stock Option under Novelos Therapeutics, Inc.'s 2006 Stock Incentive Plan	8-K	December 15, 2006	10.3
Securities Purchase Agreement dated April 12, 2007	10-QSB	May 8, 2007	10.1
Letter Amendment dated May 2, 2007 to the Securities Purchase Agreement	10-QSB	May 8, 2007	10.2
Registration Rights Agreement dated May 2, 2007	10-QSB	May 8, 2007	10.3
Agreement to Exchange and Consent dated May 1, 2007	10-QSB	May 8, 2007	10.5
Form of Common Stock Purchase Warrant dated May 2, 2007 issued pursuant to the Securities Purchase Agreement dated April 12, 2007	10-QSB	May 8, 2007	4.1
Form of Common Stock Purchase Warrant dated May 2, 2007 issued pursuant to the Agreement to Exchange and Consent dated May 2, 2007	10-QSB	May 8, 2007	4.2

Schedule 5.3 (continued)

5.3(b) The following table sets forth the pro forma capitalization of the Company on a fully diluted basis giving effect to (i) the issuance of Preferred Stock and the Warrants at the time of Closing, (ii) any adjustments in other securities resulting from the issuance of the Preferred Stock and the Warrants at the time of Closing, and (iii) the exercise or conversion of all outstanding securities:

NVLT - Proforma Capital Structure

Upon Closing of Series D Financing

		Number	Effective conv. rate	Common stock equival.	Exer. Price	Total cash
Cash, cash equivalents[1]						$ 10,926,220
Common stock outstanding	39,360,272	39,360,272		39,360,272		
Preferred stock						
Series C	3,264,000	272	0.65	5,021,538		
Series B (to exchange for D)	15,000,000	300	0.65	23,076,923		
Series D (estimated net proceeds)		**100**	**0.65**	**7,692,300**		**$ 4,800,000**
Warrants						
2005 Bridge Financing	720,000	720,000		720,000	$ 0.625	cashless
2005 PIPE and Series A Preferred[4]	6,149,696	8,938,925		8,938,925	$ 0.65	$ 5,810,301
2006 PIPE[5]	10,270,018	10,875,979		10,875,979	$ 2.08	$ 22,622,036
Series B & Placement Agent	8,400,000	8,400,000		8,400,000	$ 0.65	$ 5,460,000
Series A (subordination)	1,333,333	1,333,333		1,333,333	$ 1.25	cashless
Series D	-	3,846,151		3,846,151	$ 0.65	$ 2,499,998
Stock options outstanding	5,082,651	5,082,651		5,082,651	$ 0.6786	$ 3,449,087
						$ 55,567,643
Stock options reserved for issuance under 2006 plan	2,445,000			2,445,000		
Fully diluted shares	92,024,970			**116,793,072**		

Notes:

[1] As of Dec 31, 2007

[2] Conversion price will be reduced from $1.00 to $0.65 in connection with the Series D financing

[4] Includes 2,789,229 warrants to be issued pursuant to anti-dilution adjustments in connection with the Series D Financing; price adjustment from $1.00

[5] Includes 606,961 warrants to be issued pursuant to anti-dilution adjustments in connection with the Series B Financing; price adjustment from $2.20

Schedule 5.5

Consents

In connection with the closing of the preferred stock and warrant financing, we anticipate receiving a consent from the holders of the Company's Series C Convertible Preferred Stock.

Schedule 5.7(a)

Material Adverse Changes

None.

Schedule 5.8b

SEC Filings

None.

Schedule 5.9

Conflicts

The Series C Preferred Stock's Certificate of Designations contains certain prohibitions on amendments to the Company's Certificate of Incorporation which would create a series of capital stock entitled to seniority as to the payment of dividends or liquidation preference in relation to the Series C Preferred Stock other than the Series B Preferred Stock.

We anticipate obtaining a consent from the holders of the Company's Series C Convertible Preferred Stock whereby each holder consents to the issuance of the Series D Preferred Stock and the filing of the Certificate of Designations setting forth the relative rights, privileges and preferences of the Series D Preferred.

Schedule 5.10

Taxes

None.

Schedule 5.11

Title to Properties

None.

Schedule 5.14 (a)

Intellectual Property

None.

Schedule 5.14 (d)

IP Litigation

None.

Schedule 5.19

Brokers and Finders

On February 12, 2007 the Company entered into a letter agreement with the Placement Agent and on March 25, 2008, that letter agreement was amended to provide that the Company pay the Placement Agent a cash placement fee of 2% of the aggregate proceeds from the Private Placement.

AMENDMENT
TO THE
SECURITIES PURCHASE AGREEMENT

This AMENDMENT TO THE SECURITIES PURCHASE AGREEMENT (the "Amendment") dated as of April 9, 2008, is entered into by and between Novelos Therapeutics, Inc., a Delaware Corporation (the "Company") and the investors listed on the signature pages hereto (each an "Investor" and collectively the "Investors").

WHEREAS, the Company and the Investors have entered into that certain Securities Purchase Agreement dated as of March 26, 2008 (the "Purchase Agreement");

WHEREAS, pursuant to Section 11.6 of the Purchase Agreement, the Purchase Agreement may be amended with the written consent of the Company and the Requisite Holders (as defined in the Purchase Agreement);

WHEREAS, the Company and the Investors, which Investors include the Requisite Holders, desire to amend the Purchase Agreement as hereinafter set forth.

NOW, THEREFORE, in consideration of the premises and the mutual covenants herein contained, the parties hereto agree as follows:

1. Amendment. The Purchase Agreement is hereby amended as follows:

(a) Paragraph A of the Recitals is hereby deleted in its entirety and replaced with the following:

"A. The Company desires, pursuant to this Agreement, to raise up to the Investment Amount (as defined below) through the issuance and sale of the following to the Investors (the "**Private Placement**"): (i) up to 113.5 shares of a newly created series of the Company's Preferred Stock, designated "Series D Convertible Preferred Stock", par value $0.00001 per share (the "**Preferred Stock**"), which Preferred Stock shall have the rights, preferences and privileges set forth in the Certificate of Designations, Preferences and Rights, in the form of **Exhibit A** annexed hereto and made a part hereof (the "**Certificate of Designations**"), and each share of Preferred Stock shall have a stated value of $50,000 and shall initially be convertible into shares of the Company's Common Stock, par value $0.00001 per share (the "**Common Stock**"), at a price of $0.65 per share (the "**Conversion Price**"), for an aggregate of 8,730,755 shares of Common Stock; and (ii) warrants to acquire up to 4,365,381 shares of Common Stock, equal to 50% of the number of shares of Common Stock underlying the Preferred Stock on the date of issue, with an exercise price of $0.65 per share, in the form of **Exhibit B** annexed hereto and made a part hereof (the "**Warrants**");"

(b) The definition of "Investment Amount" in Section 1 is hereby deleted in its entirety and replaced with the following:

"**Investment Amount**" means an amount equal to $5,675,000

(c) The definition of "Orbimed Entities" in Section 1 is hereby deleted in its entirety and replaced with the following:

"**Orbimed Entities** means, collectively, Caduceus Master Fund Limited, a Bermuda corporation ("**Caduceus Master**"), Caduceus Capital II, L.P., a Delaware limited partnership ("**Caduceus Capital**"), Summer Street Life Sciences Hedge Fund Investors LLC, a Delaware limited liability company ("**Summer Street**"), UBS Eucalyptus Fund, L.L.C., a Delaware registered investment company ("**UBS Eucalyptus**") and PW Eucalyptus Fund, Ltd., a Cayman Islands investment company ("**PW Eucalyptus**")

(d) The definition of "Requisite Holders" in Section 1 is hereby deleted in its entirety and replaced with the following:

"**Requisite Holders**" shall mean the holders of at least a majority of the then outstanding shares of Preferred Stock which majority must include (i) the Xmark Entities, provided such Xmark Entities have purchased an aggregate of $1,480,000 of Preferred Stock pursuant to this Agreement and hold at least one-third of the Preferred Stock issued to the Xmark Entities at Closing as of the date of determination and (ii) the OrbiMed Entities, provided such OrbiMed Entities have purchased an aggregate of $1,813,750 of Preferred Stock pursuant to this Agreement and hold at least one-third of the Preferred Stock issued to the OrbiMed Entities at Closing as of the date of determination (appropriately adjusted for any stock dividend, stock split, reverse stock split, reclassification, stock combination or other recapitalization occurring after the date hereof).

(e) The definition of "Xmark Entities" in Section 1 is hereby deleted in its entirety and replaced with the following:

Xmark Entities" means, collectively, Xmark Opportunity Fund, L.P., a Delaware limited partnership ("**Xmark LP**"), Xmark Opportunity Fund, Ltd., a Cayman Islands exempted company ("**Xmark Ltd**") and Xmark JV Investment Partners, LLC ("**Xmark LLC**"), a Delaware limited liability company.

(f) Section 7 is hereby amended by adding a new Section 7.4 as follows:

7.4 Series B Dividend. The Company and each of the Series B Investors hereby agree that the dividend accrued on each share of Series B Preferred Stock from April 1, 2008 through the day immediately preceding the Exchange shall be paid, out of legally available funds, on June 30, 2008.

(g) Schedule I attached to the Purchase Agreement is hereby deleted in its entirety and replaced with Schedule I attached hereto.

(h) Schedule 5.3(b) attached to the Purchase Agreement is hereby deleted in its entirety and replaced with Schedule 5.3(b) attached hereto

(i) Schedule 5.19 attached to the Purchase Agreement is hereby deleted in its entirety and replaced with Schedule 5.19 attached hereto.

2. Applicable Law. This Amendment shall be governed by, and construed and enforced in accordance with, the substantive laws of the State of New York, without regard to its principles of conflicts of laws.

3. Effect on Purchase Agreement. Except as modified hereby, the Purchase Agreement shall remain in full force and effect.

4. Counterparts. This Amendment may be executed in any number of counterparts, each of which shall be an original, but all of which together shall be deemed to constitute one instrument.

Amendment to the Securities Purchase Agreement
Company Signature Page

IN WITNESS WHEREOF the undersigned have executed this Amendment to the Securities Purchase Agreement or caused its duly authorized officers to execute this Amendment to the Securities Purchase Agreement as of the date first above written.

NOVELOS THERAPEUTICS, INC.

By: /s/ Harry S. Palmin
Name: Harry S. Palmin
Title: President and CEO

Amendment to the Securities Purchase Agreement
Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Amendment to the Securities Purchase Agreement or caused its duly authorized officers to execute this Amendment to the Securities Purchase Agreement as of the date first above written.

Xmark Opportunity Fund, Ltd.
Name of entity

By: Xmark Opportunity Manager, LLC,
its Investment Manager

By: Xmark Opportunity Partners, LLC,
its Sole Member

By: Xmark Capital Partners, LLC,
its Managing Member

By: /s/ Mitchell D. Kaye

Name: Mitchell D. Kaye
Title: Chief Executive Officer

Cayman Islands
Jurisdiction of organization of entity

Address:

90 Grove Street
Ridgefield, CT 06877

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement, as amended:

Closing Price:	$ 940,000

Amendment to Securities Purchase Agreement
Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Amendment to the Securities Purchase Agreement or caused its duly authorized officers to execute this Amendment to the Securities Purchase Agreement as of the date first above written.

Xmark Opportunity Fund, L.P.
Name of entity

By: Xmark Opportunity GP, LLC
its General Partner

By: Xmark Opportunity Partners, LLC,
its Sole Member

By: Xmark Capital Partners, LLC,
its Managing Member

By: /s/ Mitchell D. Kaye
Name: Mitchell D. Kaye
Title: Chief Executive Officer

Delaware
Jurisdiction of organization of entity

Address:

90 Grove Street
Ridgefield, CT 06877

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement, as amended.

Closing Price:	$ 495,000

Amendment to Securities Purchase Agreement
Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Amendment to the Securities Purchase Agreement or caused its duly authorized officers to execute this Amendment to the Securities Purchase Agreement as of the date first above written.

Xmark JV Investment Partners, LLC
Name of entity

By: Xmark Opportunity Partners, LLC
its Investment Manager

By: Xmark Capital Partners, LLC,
its Managing Member

By: /s/ Mitchell D. Kaye
Name: Mitchell D. Kaye
Title: Chief Executive Officer

Delaware
Jurisdiction of organization of entity

Address:

90 Grove Street
Ridgefield, CT 06877

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement, as amended:

Closing Price:	$ 45,000

Amendment to the Securities Purchase Agreement
Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Amendment to the Securities Purchase Agreement or caused its duly authorized officers to execute this Amendment to the Securities Purchase Agreement as of the date first above written.

Caduceus Capital Master Fund Limited
Name of entity

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Partner, OrbiMed Advisors LLC

Print jurisdiction of organization of entity: Bermuda

Address:
c/o OrbiMed Advisors LLC
767 Third Avenue, 30th Floor
New York, NY 10017

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement, as amended:

Closing Price:	$	590,000.00

Amendment to the Securities Purchase Agreement
Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Amendment to the Securities Purchase Agreement or caused its duly authorized officers to execute this Amendment to the Securities Purchase Agreement as of the date first above written

Caduceus Capital II, L.P.

Name of entity

By: /s/ Samuel D. Isaly

Name: Samuel D. Isaly
Title: Managing Partner, OrbiMed Advisors LLC

Print jurisdiction of organization of entity: Delaware

Address:
c/o OrbiMed Advisors LLC
767 Third Avenue, 30th Floor
New York, NY 10017

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement, as amended:

Closing Price:	$ 658,500.00

Amendment to the Securities Purchase Agreement
Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Amendment to the Securities Purchase Agreement or caused its duly authorized officers to execute this Amendment to the Securities Purchase Agreement as of the date first above written

Summer Street Life Sciences Hedge Fund Investors LLC
Name of entity

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Partner, OrbiMed Advisors LLC

Print jurisdiction of organization of entity: Delaware

Address:
c/o OrbiMed Advisors LLC
767 Third Avenue, 30th Floor
New York, NY 10017

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement, as amended:

Closing Price:	$ 500,000.00

Amendment to the Securities Purchase Agreement
Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Amendment to the Securities Purchase Agreement or caused its duly authorized officers to execute this Amendment to the Securities Purchase Agreement as of the date first above written.

UBS Eucalyptus Fund, L.L.C.
Name of entity

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Partner, OrbiMed Advisors LLC

Print jurisdiction of organization of entity: Delaware

Address:
c/o OrbiMed Advisors LLC
767 Third Avenue, 30th Floor
New York, NY 10017

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement, as amended:

Closing Price:	$ 58,500.00

Amendment to the Securities Purchase Agreement
Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Amendment to the Securities Purchase Agreement or caused its duly authorized officers to execute this Amendment to the Securities Purchase Agreement as of the date first above written.

PW Eucalyptus Fund, Ltd.
Name of entity

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Partner, OrbiMed Advisors LLC

Print jurisdiction of organization of entity: Cayman Islands

Address:
c/o OrbiMed Advisors LLC
767 Third Avenue, 30th Floor
New York, NY 10017

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement, as amended:

Closing Price:	$	6,750.00

Amendment to the Securities Purchase Agreement
Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Amendment to the Securities Purchase Agreement or caused its duly authorized officers to execute this Amendment to the Securities Purchase Agreement as of the date first above written.

Knoll Capital Fund II Master Fund Ltd.
Name of entity

By: /s/ Fred Knoll
Name: Fred Knoll
Title: KOM Capital Management
Investment Manager

Print jurisdiction of organization of entity:

Address:
c/o KOM Capital Management
666 Fifth Avenue, Suite 3702,
New York, NY 10103

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement:

Closing Price:	$ 490,000.00

Amendment to the Securities Purchase Agreement
Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Amendment to the Securities Purchase Agreement or caused its duly authorized officers to execute this Amendment to the Securities Purchase Agreement as of the date first above written.

Europa International, Inc.
Name of entity

By: /s/ Fred Knoll
Name: Fred Knoll
Title: Knoll Capital Management
Investment Manager for
Europa International, Inc.

Print jurisdiction of organization of entity

Address:
c/o Knoll Capital Management
666 Fifth Avenue, Suite 3702,
New York, NY 10103

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement:

Closing Price:	$ 1,090,000.00

Amendment to Securities Purchase Agreement
Investor Signature Page

IN WITNESS WHEREOF, the undersigned has executed this Amendment to the Securities Purchase Agreement or caused its duly authorized officers to execute this Amendment to the Securities Purchase Agreement as of the date first above written.

Hunt BioVenures, L.P.
Name of entity

By: HBV GP, L.L.C., its General Partner

By: /s/ J. Fulton Murray, III

Name: J. Fulton Murray, III, Manager

Jurisdiction of organization of entity: Delaware

Address:
Hunt Investments
1900 N. Akard
Dallas, TX 75201
Attn: Michael T. Bierman, J. Fulton Murray, III and Benjamin D. Nelson

Aggregate dollar amount of Securities committed to be purchased pursuant to the terms of the Agreement, as amended:

Closing Price:	$	801,250.00

SCHEDULE I - INVESTORS - CLOSING

Name of Investor	Closing Purchase Price	Number of Shares of Preferred Stock	Number of Warrants
Xmark Opportunity Fund, Ltd. 90 Grove Street Ridgefield, CT 06877 Attn: Mitchell D. Kaye	$ 940,000.00	18.8	723,076
Xmark Opportunity Fund, L.P. 90 Grove Street Ridgefield, CT 06877 Attn: Mitchell D Kaye	$ 495,000.00	9.9	380,769
Xmark JV Investment Partners, LLC 90 Grove Street Ridgefield, CT 06877 Attn: Mitchell D Kaye	$ 45,000.00	0.9	34,615
Caduceus Capital Master Fund Limited c/o OrbiMed Advisors LLC 767 Third Avenue, 30th Floor New York, NY 10017 Attn: Jeff Comisarow	$ 590,000.00	11.8	453,846
Caduceus Capital II, L.P. c/o OrbiMed Advisors LLC 767 Third Avenue, 30th Floor New York, NY 10017 Attn: Jeff Comisarow	$ 658,500.00	13.17	506,538
Summer Street Life Sciences Hedge Fund Investors, LLC c/o OrbiMed Advisors LLC 767 Third Avenue, 30th Floor New York, NY 10017 Attn: Jeff Comisarow	$ 500,000.00	10.0	384,615
UBS Eucalyptus Fund, LLC c/o OrbiMed Advisors LLC 767 Third Avenue, 30th Floor New York, NY 10017 Attn: Jeff Comisarow	$ 58,500.00	1.17	45,000
PW Eucalyptus Fund, Ltd. c/o OrbiMed Advisors LLC 767 Third Avenue, 30th Floor New York, NY 10017 Attn: Jeff Comisarow	$ 6,750.00	0.135	5,192
Knoll Capital Fund II Master Fund, Ltd. c/o KOM Capital Management 666 Fifth Avenue, Suite 3702, New York, NY 10103 Attn: Fred Knoll	$ 490,000.00	9.8	376,923
Europa International, Inc. c/o KOM Capital Management 666 Fifth Avenue, Suite 3702, New York, NY 10103 Attn: Fred Knoll	$ 1,090,000.00	21.8	838,461
Hunt-BioVentures, L.P. 1900 N. Akard Dallas, TX 75201 Attn: Michael T. Bierman, J. Fulton Murray III, and Benjamin D. Nelson	$ 801,250.00	16.025	616,346

Schedule 5.3 (continued)

5.3(b) The following table sets forth the pro forma capitalization of the Company on a fully diluted basis giving effect to (i) the issuance of Preferred Stock and the Warrants at the time of Closing, (ii) any adjustments in other securities resulting from the issuance of the Preferred Stock and the Warrants at the time of Closing, and (iii) the exercise or conversion of all outstanding securities:

NVLT-Proforma Capital Structure

		Upon Closing of Series D Financing				
		Number	Effective conv. rate	Common stock equival.	Exer. Price	Total cash
Cash, cash equivalents[1]						$ 10,926,220
Common stock outstanding	39,360,272	39,360,272		39,360,272		
Preferred stock						
Series C[2]	3,264,000	272	0.65	5,021,538		
Series B (to exchange for D)[2]	15,000,00	300	0.65	23,076,923		
Series D (estimated net proceeds)		113.5	0.65	8,730,755		$ 5,475,000
Warrants						
2005 Bridge Financing	720,000	720,000		720,000	$ 0.625	cashless
2005 PIPE and Series A Preferred[3]	6,149,696	8,938,925		8,938,925	$ 0.65	$ 5,810,301
2006 PIPE[4]	10,270,018	10,875,979		10,875,979	$ 2.08	$ 22,622,036
Series B & Placement Agent[2]	8,400,000	8,400,000		8,400,000	$ 0.65	$ 5,460,000
Series A (subordination)	1,333,333	1,333,333		1,333,333	$ 1.25	cashless
Series D	-	4,365,381		4,365,381	$ 0.65	$ 2,837,497
Stock options outstanding	5,082,651	5,082,651		5,082,651	$ 0.6786	$ 3,449,087
						$ 56,580,142
Stock options reserved for issuance under 2006 plan	2,445,000			2,445,000		
Fully diluted shares	92,024,970			**118,350,757**		

Notes:

[1] As of Dec 31, 2007

[2] Conversion price will be reduced from $1.00 to $0.65 in connection with the Series D financing

[3] Includes 2,789,229 warrants to be issued pursuant to anti-dilution adjustments in connection with the Series D Financing; price adjustment from $1.00

[4] Includes 605,961 warrants to be issued pursuant to anti-dilution adjustments in connection with the Series B Financing; price adjustments from $2.20

Schedule 5.19

Brokers and Finders

On February 12, 2007 the Company entered into a letter agreement with the Placement Agent and on March 25, 2008 that letter agreement was amended to provide that the Company pay the Placement Agent a cash placement fee of 2% of the aggregate proceeds from the Private Placement. On April 7, 2008, the Placement Agent confirmed by e-mail that the cash placement fee would not include the additional $675,000 in proceeds included in the amended securities purchase agreement and that the cash placement fee would not exceed $100,000.

REGISTRATION RIGHTS AGREEMENT

This Registration Rights Agreement (the "**Agreement"**) is made and entered into as of this 11th day of April, 2008 by and among Novelos Therapeutics, Inc., a Delaware corporation (the "**Company**"), the "**Investors**" named in that certain Securities Purchase Agreement, dated March 26, 2008, as amended on April 9, 2008, by and among the Company and the Investors (the "**Securities Purchase Agreement**"), and the holders of the Series B Warrants (as defined below). Capitalized terms not otherwise defined herein shall have the meanings ascribed thereto in the Securities Purchase Agreement.

WHEREAS, the Company has agreed to issue and sell to the Investors, and the Investors have agreed to purchase from the Company, 113.5 shares of Preferred Stock and warrants (the "Series D Warrants") to purchase up to 4,365,381 shares of the Company's common stock, $.00001 par value per share (the "Common Stock"), upon the terms and conditions set forth in the Securities Purchase Agreement;

WHEREAS, the holders of the Series B Warrants are parties to a Registration Rights Agreement dated May 2, 2007 (the "**Prior Registration Agreement**");

WHEREAS, the holders of the Series B Warrants have agreed to amend the Series B Warrants, amend the Prior Registration Statement and waive any and all liquidated damages accruing from September 6, 2007 as a result of the Company's failure to register the Series B Warrants;

WHEREAS, the Company has agreed to register the shares of Common Stock issuable upon conversion of the Preferred Stock and the shares of Common Stock issuable upon exercise of the Series B Warrants and Series D Warrants in accordance with the terms of this Agreement;

The parties hereby agree as follows:

1. Certain Definitions.

As used in this Agreement, the following terms shall have the following meanings:

"**FINRA**" shall mean the Financial Industry Regulatory Authority.

"**Holders**" shall mean the Investors **and the holders of the Series B Warrants** and any Affiliate or permitted transferee thereof who is a subsequent holder of any Registrable Securities.

"**Investors**" shall mean the Investors identified in the Securities Purchase Agreement.

"**Preferred Stock**" means the Series D Convertible Preferred Stock, par value $0.00001 per share.

"**Prospectus**" shall mean the prospectus included in any Registration Statement, as amended or supplemented by any prospectus supplement, with respect to the terms of the offering of any portion of the Registrable Securities covered by such Registration Statement and by all other amendments and supplements to the prospectus, including post-effective amendments and all material incorporated by reference in such prospectus.

"**Register**," "**registered**" and "**registration**" refer to a registration made by preparing and filing a Registration Statement or similar document in compliance with the 1933 Act, and the declaration or ordering of effectiveness of such Registration Statement or document.

"**Registrable Securities**" shall mean the shares of Common Stock issuable (i) upon the conversion of the Preferred Stock (excluding 12,000,000 shares of Common Stock issuable upon conversion of the Preferred Stock which are registered pursuant to the Prior Registration Statement), (ii) upon the exercise of the Series D Warrants and (iii) upon the exercise of the Series B Warrants; provided, that, a security shall cease to be a Registrable Security upon a sale pursuant to a Registration Statement.

"**Registration Statement**" shall mean any registration statement of the Company filed under the 1933 Act that covers the resale of any of the Registrable Securities pursuant to the provisions of this Agreement, amendments and supplements to such Registration Statement, including post-effective amendments, and all exhibits and all material incorporated by reference in such Registration Statement.

"**Series B Warrants**" shall mean the warrants to purchase up to 7,500,000 shares of Common Stock dated May 2, 2007, as amended, issued pursuant to that certain Securities Purchase Agreement dated as of April 12, 2007, as amended on May 2, 2007.

2. Amendment of Prior Registration Rights Agreement.

The holders of the Series B Warrants by their execution of this Agreement hereby agree and acknowledge that the Prior Registration Agreement has been amended to, among other things, remove the Series B Warrants from the definition of Registrable Securities and as result of such amendment this Agreement supersedes and replaces, in its entirety, the Prior Registration Agreement with respect to the registration of the Series B Warrants and that holders of the Series B Warrants shall have no further rights under the Prior Registration Agreement with respect to the registration of the Series B Warrants.

3. Registration.

(a) Registration Statement. Promptly following the six month anniversary of the Closing Date of the purchase and sale of the Preferred Stock and Series D Warrants contemplated by the Securities Purchase Agreement, but in no event after five (5) business days after the six month anniversary of the Closing Date (the "**Filing Deadline**"), the Company shall prepare and file with the SEC one Registration Statement on Form S-1 covering the resale of all of the Registrable Securities without regard to any limitation on exercise of the Series D Warrants and Series B Warrants. Such Registration Statement shall include the plan of distribution attached hereto as Exhibit A. Such Registration Statement also shall cover, to the extent allowable under the 1933 Act and the rules promulgated thereunder (including Rule 416), such indeterminate number of additional shares of Common Stock resulting from stock splits, stock dividends or similar transactions with respect to the Registrable Securities. The Registration Statement (and each amendment or supplement thereto, and each request for acceleration of effectiveness thereof) shall be provided in accordance with Section 4(c) to the Holders and their respective counsel prior to its filing or other submission. If a Registration Statement covering the Registrable Securities is not filed with the SEC on or prior to the Filing Deadline, the Company will make pro rata payments to each Holder, as liquidated damages and not as a penalty, in an amount equal to 1.5% of the aggregate amount invested by such Holder for each 30-day period or pro rata for any portion thereof following the date by which such Registration Statement should have been filed for which no Registration Statement is filed with respect to the Registrable Securities. Such payments shall be in partial compensation to the Holders, and shall not constitute the Holders' exclusive remedy for such events. Such payments shall be made to each Holder in cash. The amounts payable as liquidated damages pursuant to this paragraph shall be payable in lawful money of the United States, and amounts payable as liquidated damages shall be paid within two (2) Business Days of the last day of each such 30-day period during which the Registration Statement should have been filed for which no Registration Statement was filed with respect to the Registrable Securities.

(b) Expenses. The Company will pay all expenses associated with each registration, including filing and printing fees, counsel and accounting fees and expenses, costs associated with clearing the Registrable Securities for sale under applicable state securities laws and listing fees, but excluding the fees and disbursements of more than one law firm serving as counsel to the Holders, and discounts, commissions, fees of underwriters, selling brokers, dealer managers or similar securities industry professionals with respect to the Registrable Securities being sold.

(c) Effectiveness.

(i) The Company shall use its best efforts to have the Registration Statement declared effective not later than the earlier to occur of (x) the 60th day immediately following the Filing Deadline, (y) five (5) Business Days following the Company's receipt of a no-review letter from the SEC relating to the Registration Statement, or (z) the 90th day following the Filing Deadline if the Company's receives a review from the SEC relating to the Registration Statement; provided, however, if the Registration Statement is not declared effective within the time period set forth above, the Company shall continue to use its best efforts to have the Registration Statement declared effective as soon as possible thereafter.

(ii) For not more than fifteen (15) consecutive days or for a total of not more than thirty (30) days in any twelve (12) month period, the Company may delay the disclosure of material non-public information concerning the Company, by terminating or suspending effectiveness of any registration contemplated by this Section 3, if the disclosure of such material non-public information at the time is not, in the good faith opinion of the Company, in the best interests of the Company (an "**Allowed Delay**"); provided, that the Company shall promptly (a) notify the Holders in writing of the existence of (but in no event, without the prior written consent of a Holder, shall the Company disclose to such Holder any of the facts or circumstances regarding) material non-public information giving rise to an Allowed Delay, and (b) advise the Holders in writing to cease all sales under the Registration Statement until the end of the Allowed Delay.

(d) Underwritten Offering. If any offering pursuant to a Registration Statement filed pursuant to Section 3(a) hereof involves an underwritten offering, the Company shall have the right to select an investment banker and manager to administer the offering, subject to the reasonable satisfaction of the Requisite Holders.

4. Company Obligations. The Company will use its best efforts to effect the registration of the Registrable Securities in accordance with the terms hereof, and pursuant thereto the Company will, as expeditiously as possible:

(a) use its best efforts to cause such Registration Statement to become effective and to remain continuously effective for a period that will terminate upon the earlier of (i) the date on which all Registrable Securities covered by such Registration Statement, as amended from time to time, have been sold and (ii) two years from the Closing Date;

(b) prepare and file with the SEC such amendments and post-effective amendments to the Registration Statement and the Prospectus as may be necessary to keep the Registration Statement effective for the period specified in Section 4(a) and to comply with the provisions of the 1933 Act and the 1934 Act with respect to the distribution of all Registrable Securities;

(c) provide copies to and permit counsel to the Investors to review each Registration Statement and all amendments thereto no fewer than three (3) days prior to their filing with the SEC and not file any document to which such counsel reasonably objects within three (3) days following receipt by such counsel of such Registration Statement and/or amendments thereto;

(d) furnish to the Holders and their legal counsel (i) promptly after the same is prepared and publicly distributed, filed with the SEC, or received by the Company (but not later than two (2) Business Days after the filing date, receipt date or sending date, as the case may be), an electronic copy of any Registration Statement and any amendment thereto, each preliminary prospectus and Prospectus and each amendment or supplement thereto, and each letter written by or on behalf of the Company to the SEC or the staff of the SEC, and each item of correspondence from the SEC or the staff of the SEC, in each case relating to such Registration Statement (other than any portion thereof which contains information for which the Company has sought confidential treatment), and (ii) such number of copies of a Prospectus, including a preliminary prospectus, and all amendments and supplements thereto and such other documents as each Holder may reasonably request in order to facilitate the disposition of the Registrable Securities owned by such Holder, which in any event, shall not exceed ten (10) Prospectuses;

(e) in the event the Company selects an underwriter for the offering, the Company shall enter into and perform its reasonable obligations under an underwriting agreement, in usual and customary form, including, without limitation, customary indemnification and contribution obligations, with the underwriter of such offering;

(f) if required by the underwriter, the Company shall furnish, on the effective date of the Registration Statement (i) an opinion, dated as of such date, from independent legal counsel representing the Company for purposes of such Registration Statement, in form, scope and substance as is customarily given in an underwritten public offering, addressed to the underwriter and (ii) a letter, dated such date, from the Company's independent certified public accountants in form and substance as is customarily given by independent certified public accountants to underwriters in an underwritten public offering, addressed to the underwriter and the Holders;

(g) use its reasonable best efforts to prevent the issuance of any stop order or other suspension of effectiveness and, if such order is issued, obtain the withdrawal of any such order at the earliest possible moment;

(h) prior to any public offering of Registrable Securities, use its reasonable best efforts to register or qualify or cooperate with the Holders and their counsel in connection with the registration or qualification of such Registrable Securities for offer and sale under the securities or blue sky laws of such jurisdictions reasonably requested by the Holders and do any and all other reasonable acts or things necessary or advisable to enable the distribution in such jurisdictions of the Registrable Securities covered by the Registration Statement;

(i) cause all Registrable Securities covered by a Registration Statement to be listed or traded on each securities exchange, interdealer quotation system or other market on which similar securities issued by the Company are then listed or traded;

(j) immediately notify the Holders, at any time when a Prospectus relating to the Registrable Securities is required to be delivered under the 1933 Act, upon discovery that, or upon the happening of any event as a result of which, the Prospectus included in such Registration Statement, as then in effect, includes an untrue statement of a material fact or omits to state any material fact required to be stated therein or necessary to make the statements therein not misleading in light of the circumstances then existing, and at the request of any such Holder, promptly prepare and furnish to such Holder a reasonable number of copies of a supplement to or an amendment of such Prospectus as may be necessary so that, as thereafter delivered to the purchasers of such Registrable Securities, such Prospectus shall not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading in light of the circumstances then existing; and

(k) otherwise use its best efforts to comply with all applicable rules and regulations of the SEC under the 1933 Act and the 1934 Act and take such other actions as may be reasonably necessary to facilitate the registration of the Registrable Securities hereunder; and make available to its security holders, as soon as reasonably practicable, but not later than the Availability Date (as defined below), an earnings statement covering a period of at least twelve (12) months, beginning after the effective date of each Registration Statement, which earnings statement shall satisfy the provisions of Section 11(a) of the 1933 Act (for the purpose of this subsection 3(k), "**Availability Date**" means the 45th day following the end of the fourth fiscal quarter that includes the effective date of such Registration Statement, except that, if such fourth fiscal quarter is the last quarter of the Company's fiscal year, "**Availability Date**" means the 90th day after the end of such fourth fiscal quarter).

5. Due Diligence Review; Information. Upon receipt of an appropriate confidentiality agreement, the Company shall make available, during normal business hours, for inspection and review by the Holders, advisors to and representatives of the Holders (who may or may not be affiliated with the Holders), and any underwriter participating in any disposition of Common Stock on behalf of the Holders pursuant to a Registration Statement or amendments or supplements thereto or any blue sky, FINRA or other filing, all financial and other records, all filings with the SEC, and all other corporate documents and properties of the Company as may be reasonably necessary for the purpose of such review, and cause the Company's officers, directors and employees, within a reasonable time period, to supply all such information reasonably requested by the Holders or any such representative, advisor or underwriter in connection with such Registration Statement (including, without limitation, in response to all questions and other inquiries reasonably made or submitted by any of them), prior to and from time to time after the filing and effectiveness of the Registration Statement for the sole purpose of enabling the Holders and such representatives, advisors and underwriters and their respective accountants and attorneys to conduct initial and ongoing due diligence with respect to the Company and the accuracy of such Registration Statement.

Notwithstanding the foregoing, the Company shall not disclose material nonpublic information to the Holders, or to advisors to or representatives of the Holders, unless prior to disclosure of such information the Company identifies such information as being material nonpublic information and provides the Holders, such advisors and representatives with the opportunity to accept or refuse to accept such material nonpublic information for review.

6. Obligations of the Holders.

(a) Each Holder agrees to furnish to the Company a completed Questionnaire in the form attached to this Agreement as Exhibit B (a "Selling Shareholder Questionnaire") not prior to 120 days after the Closing Date and not more than 150 days after the Closing Date. A Holder who fails to furnish a Selling Stockholder Questionnaire within 150 days after the Closing Date may have its Registrable Securities excluded from the Registration Statement, provided that the Company has provided such Holder with notice at least 20 days prior (but no more than 60 days prior) to the expiration of such 150 day period.

(b) Each Holder, by its acceptance of the Registrable Securities, agrees to cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of a Registration Statement hereunder, unless such Holder has notified the Company in writing of its election to exclude all of its Registrable Securities from such Registration Statement.

(c) In the event the Company, at the request of the Holders, determines to engage the services of an underwriter, each such Holder agrees to enter into and perform its obligations under an underwriting agreement, in usual and customary form, including, without limitation, customary indemnification and contribution obligations, with the managing underwriter of such offering and take such other actions as are reasonably required in order to expedite or facilitate the dispositions of the Registrable Securities.

(d) Each Holder agrees that, upon receipt of any notice from the Company of the happening of any event rendering a Registration Statement no longer effective, such Holder will immediately discontinue disposition of Registrable Securities pursuant to the Registration Statement covering such Registrable Securities, until the Holder's receipt of copies of the supplemented or amended Prospectus filed with the SEC and declared effective and, if so directed by the Company, the Holder shall deliver to the Company (at the expense of the Company) or destroy (and deliver to the Company a certificate of destruction) all copies in the Holder's possession of the Prospectus covering the Registrable Securities current at the time of receipt of such notice.

(e) No Holder may participate in any third party underwritten registration hereunder unless it (i) agrees to sell the Registrable Securities on the basis provided in any underwriting arrangements in usual and customary form entered into by the Company, (ii) completes and executes all questionnaires, powers of attorney, indemnities, underwriting agreements and other documents reasonably required under the terms of such underwriting arrangements, and (iii) agrees to pay its pro rata share of all underwriting discounts and commissions. Notwithstanding the foregoing, no Holder shall be required to make any representations to such underwriter, other than those with respect to itself and the Registrable Securities owned by it, including its right to sell the Registrable Securities, and any indemnification in favor of the underwriter by the Holders shall be several and not joint and limited in the case of any Holder, to the net proceeds received by such Holder from the sale of its Registrable Securities. The scope of any such indemnification in favor of an underwriter shall be limited to the same extent as the indemnity provided in Section 7(b) hereof.

7. Indemnification.

(a) Indemnification by the Company. The Company will indemnify and hold harmless each Holder and any controlling person (as defined in Section 15 of the 1933 Act) and their respective officers, directors, members, employees and agents, successors and assigns (the "Indemnified Persons"), against any losses, claims, damages or liabilities, joint or several, to which such Indemnified Person may become subject under the 1933 Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon: (i) any untrue statement or alleged untrue statement of any material fact contained in any Registration Statement, any preliminary prospectus or final prospectus contained therein, or any amendment or supplement thereof; (ii) any blue sky application or other document executed by the Company specifically for blue sky compliance or based upon written information furnished by the Company filed in any state or other jurisdiction in order to qualify any or all of the Registrable Securities under the securities laws thereof (any such application, document or information herein called a **"Blue Sky Application"**); (iii) the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading; (iv) any violation by the Company, or its directors, officers, employees or agents of any rule or regulation promulgated under the 1933 Act applicable to the Company or its directors, officers, employees or agents and relating to action or inaction required of the Company or any of them in connection with such registration; or (v) any failure to register or qualify the Registrable Securities included in any such Registration Statement in any state where the Company or its agents has affirmatively undertaken or agreed in writing that the Company will undertake such registration or qualification on a Holder's behalf (the undertaking of any underwriter chosen by the Company being attributed to the Company) and will reimburse such Holder, and each such officer, director or member and each such controlling person for any legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, liability or action; provided, however, that the Company will not be liable in any such case if and to the extent that any such loss, claim, damage or liability arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission made in conformity with information furnished in writing by such Holder or any such controlling person specifically for use in such Registration Statement or Prospectus.

(b) Indemnification by the Holders. In connection with any Registration Statement pursuant to the terms of this Agreement, each Holder will furnish to the Company in writing such information as the Company reasonably requests concerning such Holder or the proposed manner of such Holder's distribution for use in connection with any Registration Statement or Prospectus and agrees, severally but not jointly, to indemnify and hold harmless, to the fullest extent permitted by law, the Company, its Subsidiaries and its and their respective directors, officers, employees, shareholders and each person who controls the Company (within the meaning of the 1933 Act) against any losses, claims, damages, liabilities and expenses (including reasonable attorney fees) resulting from any untrue statement of a material fact or any omission of a material fact required to be stated in the Registration Statement or Prospectus or preliminary prospectus or amendment or supplement thereto or necessary to make the statements therein not misleading, to the extent, but only to the extent that such untrue statement or omission is contained in any information furnished in writing by such Holder to the Company specifically for inclusion in such Registration Statement or Prospectus or amendment or supplement thereto. In no event shall the liability of a Holder be greater in amount than the aggregate dollar amount of the proceeds (net of all expenses paid by such Holder and the amount of any damages such Holder has otherwise been required to pay by reason of such untrue statement or omission) received by such Holder upon the sale of the Registrable Securities included in the Registration Statement giving rise to such indemnification obligation.

(c) Conduct of Indemnification Proceedings. Any person entitled to indemnification hereunder shall (i) give prompt notice to the indemnifying party of any claim with respect to which it seeks indemnification and (ii) permit such indemnifying party to assume the defense of such claim with counsel reasonably satisfactory to the indemnified party; provided that any person entitled to indemnification hereunder shall have the right to employ separate counsel and to participate in the defense of such claim, but the fees and expenses of such counsel shall be at the expense of such person unless (a) the indemnifying party has agreed to pay such fees or expenses, or (b) the indemnifying party shall have failed to assume the defense of such claim and employ counsel reasonably satisfactory to such person or (c) in the reasonable judgment of any such person, based upon advice of its counsel, a conflict of interest exists between such person and the indemnifying party with respect to such claims (in which case, if the person notifies the indemnifying party in writing that such person elects to employ separate counsel at the expense of the indemnifying party, the indemnifying party shall not have the right to assume the defense of such claim on behalf of such person); and provided, further, that the failure of any indemnified party to give notice as provided herein shall not relieve the indemnifying party of its obligations hereunder, except to the extent that such failure to give notice shall materially adversely affect the indemnifying party in the defense of any such claim or litigation. It is understood that the indemnifying party shall not, in connection with any proceeding in the same jurisdiction, be liable for fees or expenses of more than one separate firm of attorneys at any time for all such indemnified parties. No indemnifying party will, except with the consent of the indemnified party, consent to entry of any judgment or enter into any settlement that does not include as an unconditional term thereof the giving by the claimant or plaintiff to such indemnified party of a release from all liability in respect of such claim or litigation.

(d) Contribution. If for any reason the indemnification provided for in the preceding paragraphs (a) and (b) is unavailable to an indemnified party or insufficient to hold it completely harmless, other than as expressly specified therein, then the indemnifying party shall contribute to the amount paid or payable by the indemnified party as a result of such loss, claim, damage or liability in such proportion as is appropriate to reflect the relative fault of the indemnified party and the indemnifying party, as well as any other relevant equitable considerations. No person guilty of fraudulent misrepresentation within the meaning of Section 11(f) of the 1933 Act shall be entitled to contribution from any person not guilty of such fraudulent misrepresentation. In no event shall the contribution obligation of a Holder be greater in amount than the aggregate dollar amount of the proceeds (net of all expenses paid by such holder and the amount of any damages such Holder has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission) received by it upon the sale of the Registrable Securities giving rise to such contribution obligation.

8. Miscellaneous.

(a) Amendments and Waivers. This Agreement shall not be amended except by a writing signed by (i) the Company and (ii) the Requisite Holders. The Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company shall have obtained the written consent to such amendment, action or omission to act, of the Requisite Holders.

(b) Notices. All notices and other communications provided for or permitted hereunder shall be made as set forth in Section 11.4 of the Securities Purchase Agreement.

(c) Assignments and Transfers by Holders. The provisions of this Agreement shall be binding upon and inure to the benefit of the Holders and their respective successors and assigns. A Holder may transfer or assign, in whole or from time to time in part, to one or more persons its rights hereunder in connection with the transfer of Registrable Securities by such Holder to such person, provided, that, such Holder complies with all applicable laws thereto and provides written notice of assignment to the Company promptly after such assignment is effected.

(d) Assignments and Transfers by the Company. This Agreement shall not be assigned by the Company without the prior written consent of each Holder, except that without the prior written consent of the Holders, but after notice duly given, the Company shall assign its rights and delegate its duties hereunder to any successor-in-interest corporation, and such successor-in-interest shall assume such rights and duties, in the event of a merger or consolidation of the Company with or into another corporation or the sale of all or substantially all of the Company's assets.

(e) Benefits of the Agreement. The terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective permitted successors and assigns of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

(f) Counterparts; Faxes. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Agreement may also be executed via facsimile, which shall be deemed an original.

(g) Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

(h) Severability. Any provision of this Agreement that is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof but shall be interpreted as if it were written so as to be enforceable to the maximum extent permitted by applicable law, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction. To the extent permitted by applicable law, the parties hereby waive any provision of law which renders any provisions hereof prohibited or unenforceable in any respect.

(i) Further Assurances. The parties shall execute and deliver all such further instruments and documents and take all such other actions as may reasonably be required to carry out the transactions contemplated hereby and to evidence the fulfillment of the agreements herein contained.

(j) Entire Agreement. This Agreement is intended by the parties as a final expression of their agreement and intended to be a complete and exclusive statement of the agreement and understanding of the parties hereto in respect of the subject matter contained herein. This Agreement supersedes all prior agreements and understandings between the parties with respect to such subject matter.

(k) Governing Law; Consent to Jurisdiction. This Agreement shall be governed by, and construed in accordance with, the internal laws of the State of New York without regard to the choice of law principles thereof. Each of the parties hereto irrevocably submits to the exclusive jurisdiction of the courts of the State of New York located in New York County and the United States District Court for the Southern District of New York for the purpose of any suit, action, proceeding or judgment relating to or arising out of this Agreement and the transactions contemplated hereby. Service of process in connection with any such suit, action or proceeding may be served on each party hereto anywhere in the world by the same methods as are specified for the giving of notices under this Agreement. Each of the parties hereto irrevocably consents to the jurisdiction of any such court in any such suit, action or proceeding and to the laying of venue in such court. Each party hereto irrevocably waives any objection to the laying of venue of any such suit, action or proceeding brought in such courts and irrevocably waives any claim that any such suit, action or proceeding brought in any such court has been brought in an inconvenient forum. **THE COMPANY AND EACH OF THE HOLDERS HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING RELATING TO OR ARISING OUT OF THIS AGREEMENT AND THE TRANSACTIONS CONTEMPLATED HEREBY.**

[Signature Pages Follow]

Company Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the Company has executed this Agreement or caused its duly authorized officer to execute this Agreement as of the date first above written.

NOVELOS THERAPEUTICS, INC.

By: /s/ Harry. S. Palmin

Name: Harry S. Palmin

Title: President and CEO

Holder Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the undersigned has executed this Registration Rights Agreement or caused its duly authorized officers to execute this Registration Rights Agreement as of the date first above written.

Xmark Opportunity Fund, Ltd.
Name of entity

By: Xmark Opportunity Manager, LLC,
its Investment Manager

By: Xmark Opportunity Partners, LLC,
its Sole Member

By: Xmark Capital Partners, LLC,
its Managing Member

By: /s/ Mitchell D. Kaye
Name: Mitchell D. Kaye
Title: Chief Executive Officer

Cayman Islands
Jurisdiction of organization of entity

Address:

90 Grove Street
Ridgefield, CT 06877

Holder Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the undersigned has executed this Registration Rights Agreement or caused its duly authorized officers to execute this Registration Rights Agreement as of the date first above written.

Xmark Opportunity Fund, L.P.
Name of entity

By: Xmark Opportunity GP, LLC
its General Partner

By: Xmark Opportunity Partners, LLC,
its Sole Member

By: Xmark Capital Partners, LLC,
its Managing Member

By: /s/ Mitchell D. Kaye
Name: Mitchell D. Kaye
Title: Chief Executive Officer

Delaware
Jurisdiction of organization of entity

Address:

90 Grove Street
Ridgefield, CT 06877

Holder Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the undersigned has executed this Registration Rights Agreement or caused its duly authorized officers to execute this Registration Rights Agreement as of the date first above written.

Xmark JV Investment Partners, LLC
Name of entity

By: Xmark Opportunity Partners, LLC
its Investment Manager

By: Xmark Capital Partners, LLC,
its Managing Member

By: /s/ Mitchell D. Kaye
Name: Mitchell D. Kaye
Title: Chief Executive Officer

Delaware
Jurisdiction of organization of entity

Address:

90 Grove Street
Ridgefield, CT 06877

Holder Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the undersigned has executed this Registration Rights Agreement or caused its duly authorized officers to execute this Registration Rights Agreement as of the date first above written.

Caduceus Capital Master Fund Limited
Name of entity

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Partner, OrbiMed Advisors LLC

Print jurisdiction of organization of entity: Bermuda

Address:
c/o OrbiMed Advisors LLC
767 Third Avenue, 30th Floor
New York, NY 10017

Holder Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the undersigned has executed this Registration Rights Agreement or caused its duly authorized officers to execute this Registration Rights Agreement of the date first above written.

Caduceus Capital II, L.P.
Name of entity

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Partner, OrbiMed Advisors LLC

Print jurisdiction of organization of entity: Delaware

Address:
c/o OrbiMed Advisors LLC
767 Third Avenue, 30th Floor
New York, NY 10017

Holder Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the undersigned has executed this Registration Rights Agreement or caused its duly authorized officers to execute this Registration Rights Agreement as of the date first above written.

Summer Street Life Sciences Hedge Fund Investors LLC
Name of entity

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Partner, OrbiMed Advisors LLC

Print jurisdiction of organization of entity: Delaware

Address:
c/o OrbiMed Advisors LLC
767 Third Avenue, 30th Floor
New York, NY 10017

Holder Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the undersigned has executed this Registration Rights Agreement or caused its duly authorized officers to execute this Registration Rights Agreement as of the date first above written

UBS Eucalyptus Fund, L.L.C.
Name of entity

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Partner, OrbiMed Advisors LLC

Print jurisdiction of organization of entity: Delaware

Address:
c/o OrbiMed Advisors LLC
767 Third Avenue, 30th Floor
New York, NY 10017

Holder Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the undersigned has executed this Registration Rights Agreement or caused its duly authorized officers to execute this Registration Rights Agreement as of the date first above written.

PW Eucalyptus Fund, Ltd.
Name of entity

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Partner, OrbiMed Advisors LLC

Print jurisdiction of organization of entity: Cayman Islands

Address:
c/o OrbiMed Advisors LLC
767 Third Avenue, 30th Floor
New York, NY 10017

Holder Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the undersigned has executed this Registration Rights Agreement or caused its duly authorized officers to execute this Registration Rights Agreement as of the date first above written.

Knoll Capital Fund II Master Fund Ltd.
Name of entity

By: /s/ Fred Knoll
Name: Fred Knoll
Title: KOM Capital Management
Investment Manager

Print jurisdiction of organization of entity:

Address:
c/o KOM Capital Management
666 Fifth Avenue, Suite 3702,
New York, NY 10103

Holder Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the undersigned has executed this Registration Rights Agreement or caused its duly authorized officers to execute this Registration Rights Agreement as of the date first above written.

Europa International, Inc.

Name of entity

By: /s/ Fred Knoll

Name: Fred Knoll
Title: Knoll Capital Management
Investment Manager for
Europa International, Inc.

Print jurisdiction of organization of entity

Address:
c/o Knoll Capital Management
666 Fifth Avenue, Suite 3702,
New York, NY 10103

Holder Signature Page to Registration Rights Agreement

IN WITNESS WHEREOF, the undersigned has executed this Registration Rights Agreement or caused its duly authorized officers to execute this Registration Rights Agreement as of the date first above written.

Hunt BioVenures, L.P.

Name of entity

By: HBV GP, L.L.C., its General Partner

By: /s/ J. Fulton Murray, III

Name: J. Fulton Murray, III, Manager

Jurisdiction of organization of entity: Delaware

Address:
Hunt Investments
1900 N. Akard
Dallas, TX 75201
Attn: Michael T. Bierman, J. Fulton Murray, III and Benjamin D. Nelson

Plan of Distribution

The selling stockholders, which as used herein includes donees, pledgees, transferees or other successors-in-interest selling shares of common stock or interests in shares of common stock received after the date of this prospectus from a selling stockholder as a gift, pledge, partnership distribution or other transfer, may, from time to time, sell, transfer or otherwise dispose of any or all of their shares of common stock or interests in shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices.

The selling stockholders may use any one or more of the following methods when disposing of shares or interests therein:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;

- block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;

- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;

- an exchange distribution in accordance with the rules of the applicable exchange;

- privately negotiated transactions;

- short sales;

- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;

- broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;

- a combination of any such methods of sale; and

- any other method permitted pursuant to applicable law.

The selling stockholders may, from time to time, pledge or grant a security interest in some or all of the shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock, from time to time, under this prospectus, or under an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer the shares of common stock in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of our common stock or interests therein, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling stockholders may also sell shares of our common stock short and deliver these securities to close out their short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The aggregate proceeds to the selling stockholders from the sale of the common stock offered by them will be the purchase price of the common stock less discounts or commissions, if any. Each of the selling stockholders reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of common stock to be made directly or through agents. We will not receive any of the proceeds from this offering. Upon any exercise of the warrants by payment of cash, however, we will receive the exercise price of the warrants.

The selling stockholders also may resell all or a portion of the shares in open market transactions in reliance upon Rule 144 under the Securities Act of 1933, provided that they meet the criteria and conform to the requirements of that rule.

The selling stockholders and any underwriters, broker-dealers or agents that participate in the sale of the common stock or interests therein may be "underwriters" within the meaning of Section 2(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act. Selling stockholders who are "underwriters" within the meaning of Section 2(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act.

To the extent required, the shares of our common stock to be sold, the names of the selling stockholders, the respective purchase prices and public offering prices, the names of any agents, dealer or underwriter, any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

In order to comply with the securities laws of some states, if applicable, the common stock may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the common stock may not be sold unless it has been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

We have advised the selling stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of the selling stockholders and their affiliates. In addition, we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

We have agreed to indemnify the selling stockholders against liabilities, including liabilities under the Securities Act and state securities laws, relating to the registration of the shares offered by this prospectus.

We have agreed with the selling stockholders to keep the registration statement of which this prospectus constitutes a part effective until the earlier of (1) such time as all of the shares covered by this prospectus have been disposed of pursuant to and in accordance with the registration statement or (2) two years from the Closing Date.

Exhibit B

Selling Stockholder Questionnaire

To: Novelos Therapeutics, Inc.
c/o Foley Hoag LLP
155 Seaport Boulevard
Boston, MA 02210
Attention: Amanda Kirouac, Esq.
Facsimile: (617) 832-1000

Reference is made to the Registration Rights Agreement (the "Agreement"), made between Novelos Therapeutics, Inc., a Delaware corporation (the "Company"), and the Holders noted therein.

Pursuant to Section 6(a) of the Agreement, the undersigned hereby furnishes to the Company the following information for use by the Company in connection with the preparation of the Registration Statement.

(1) Name and Contact Information:

Full legal name of record holder: _____

Address of record holder: _____

_____

Social Security Number or Taxpayer identification number of record holder: _____

Identity of beneficial owner (if different than record holder): _____

Name of contact person: _____

Telephone number of contact person: _____

Fax number of contact person: _____

E-mail address of contact person: _____

(2) Beneficial Ownership of Registrable Securities:

(a) Number of Registrable Securities owned by Selling Stockholder:

(b) Number of Registrable Securities requested to be registered:

(3) Beneficial Ownership of Other Securities of the Company Owned by the Selling Stockholder:

Except as set forth below in this Item (3), the undersigned is not the beneficial or registered owner of any securities of the Company other than the Registrable Securities listed above in Item (2)(a).

Type and amount of other securities beneficially owned by the Selling Stockholder:

(4) Relationships with the Company:

Except as set forth below, neither the undersigned nor any of its affiliates, officers, directors or principal equity holders (5% or more) has held any position or office or has had any other material relationship with the Company (or its predecessors or affiliates) during the past three years.

State any exceptions here:

(5) Plan of Distribution:

Except as set forth below, the undersigned intends to distribute pursuant to the Registration Statement the Registrable Securities listed above in Item (2) in accordance with the "Plan of Distribution" section set forth therein:

State any exceptions here:

(6) Selling Stockholder Affiliations:

(a) Is the Selling Stockholder a registered broker-dealer?

(b) Is the Selling Stockholder an affiliate of a registered broker-dealer(s)? (For purposes of this response, an "affiliate" of, or person "affiliated" with, a specified person, is a person that directly, or indirectly through one or more intermediaries, controls or is controlled by, or is under common control with, the person specified.)

(c) If the answer to Item (6)(b) is yes, identify the registered broker-dealer(s) and describe the nature of the affiliation(s):

(d) If the answer to Item (6)(b) is yes, did the Selling Stockholder acquire the Registrable Securities in the ordinary course of business (if not, please explain)?

(e) If the answer to Item (6)(b) is yes, did the Selling Stockholder, at the time of purchase of the Registrable Securities, have any agreements, plans or understandings, directly or indirectly, with any person to distribute the Registrable Securities (if yes, please explain)?

(7) Voting or Investment Control over the Registrable Securities:

If the Selling Stockholder is not a natural person, please identify the natural person or persons who have voting or investment control over the Registrable Securities listed in Item (2) above:

Pursuant to Section 3(c) of the Agreement, the undersigned acknowledges that the Company may, by notice to the Holder at its last known address, suspend or withdraw the Registration Statement and require that the undersigned immediately cease sales of Registrable Securities pursuant to the Registration Statement under certain circumstances described in the Agreement. At any time that such notice has been given, the undersigned may not sell Registrable Securities pursuant to the Registration Statement.

The undersigned hereby agrees to sell such shares only pursuant to and in the manner contemplated by the Registration Statement, including the Plan of Distribution section contained therein (in substantially the form attached hereto as Exhibit A), or pursuant to an exemption from the registration requirements under the Securities Act. The undersigned hereby further acknowledges that pursuant to Section 7(b) of the Agreement, the undersigned shall indemnify the Company and each of its directors and officers against, and hold the Company and each of its directors and officers harmless from, any losses, claims, damages, expenses or liabilities (including reasonable attorneys fees) to which the Company or its directors and officers may become subject by reason of any statement or omission in the Registration Statement made in reliance upon, or in conformity with, a written statement by the undersigned, including the information furnished in this Questionnaire by the undersigned.

By signing below, the undersigned consents to the disclosure of the information contained herein in its answers to Items (1) through (7) above and the inclusion of such information in the Registration Statement, any amendments thereto and the related prospectus. The undersigned understands that such information will be relied upon by the Company in connection with the preparation or amendment of the Registration Statement and the related prospectus.

The undersigned has reviewed the answers to the above questions and affirms that the same are true, complete and accurate. THE UNDERSIGNED AGREES TO NOTIFY THE COMPANY IMMEDIATELY OF ANY MATERIAL CHANGES IN THE FOREGOING INFORMATION.

Dated: _____, 2008

_____

Signature of Record Holder
(Please sign your name in exactly the same manner as the certificate(s) for the shares being registered)

AMENDMENT
TO
REGISTRATION RIGHTS AGREEMENT

This AMENDMENT TO REGISTRATION RIGHTS AGREEMENT (the "Amendment") dated as of April 11, 2008, is entered into by and between Novelos Therapeutics, Inc., a Delaware Corporation (the "Company") and the entities listed on the signature pages hereto (collectively, the "Series B Holders").

WHEREAS, the Company and the Series B Holders have entered into that certain Registration Rights Agreement, dated as of May 2, 2007 (the "Registration Agreement");

WHEREAS, pursuant to Section 7(a) of the Registration Agreement, the Registration Agreement may be amended with the written consent of the Company and the Requisite Holders (as defined in the Registration Agreement);

WHEREAS, the Company and the Series B Holders, which holders include the Requisite Holders, desire to amend the Registration Agreement as hereinafter set forth.

NOW, THEREFORE, in consideration of the premises and the mutual covenants herein contained, the parties hereto agree as follows:

1. Amendment. The Registration Agreement is hereby amended as follows:

(a) The definition of "Holders" in Section 1 is hereby deleted in its entirety and replaced with the following:

"**Holders**" shall mean the Investors**,** the Lead Investors and any Affiliate or permitted transferee thereof who is a subsequent holder of any Registrable Securities or shares of Preferred Stock convertible into Registrable Securities.

(b) The definition of "Registrable Securities" in Section 1 is hereby deleted in its entirety and replaced with the following:

"**Registrable Securities**" shall mean up to 12,000,000 shares of Common Stock issuable upon conversion of the Company's Series D Convertible Preferred Stock, $.00001 par value per share (the "Series D Preferred Stock"), which Series D Preferred Stock was issued in exchange for the Registered Preferred Stock (as defined below) pursuant to that certain Securities Purchase Agreement dated as of March 26, 2008, as amended on April 9, 2008, by and among the Company and the investors set forth on Schedule I thereto; provided, that, a security shall cease to be a Registrable Security upon sale pursuant to a Registration Statement. For purposes hereof, "Registered Preferred Stock" is Preferred Stock that was convertible into 12,000,000 shares of Common Stock, the offer and sale of which is, as of the date hereof, registered pursuant to Amendment No. 3 to the Registration Statement on Form SB-2 (Registration No. 333-143263) filed with the SEC on August 29, 2007.

(c) Section 3(a) is amended by deleting "two years from the Closing Date" in subsection (ii) and replacing it with "three years from the Closing Date."

2. Applicable Law. This Amendment shall be governed by, and construed and enforced in accordance with, the substantive laws of the State of New York, without regard to its principles of conflicts of laws.

3. Effect on Registration Agreement. Except as modified hereby, the Registration Agreement shall remain in full force and effect.

4. Counterparts. This Amendment may be executed in any number of counterparts, each of which shall be an original, but all of which together shall be deemed to constitute one instrument.

IN WITNESS WHEREOF the undersigned have executed this Amendment to the Registration Rights Agreement as of the date first above written.

NOVELOS THERAPEUTICS, INC.

By: /s/ Harry S. Palmin
Name: Harry S. Palmin
Title: President and CEO

SERIES B HOLDERS:

Xmark Opportunity Fund, Ltd.
Xmark Opportunity Fund, L.P.
Xmark JV Investment Partners, LLC

By: /s/ Mitchell D. Kaye
Name: Mitchell D. Kaye
Title: Authorized Signatory

Caduceus Capital Master Fund Limited
Caduceus Capital II, L.P.
UBS Eucalyptus Fund, L.L.C.
PW Eucalyptus Fund, Ltd.

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Partner, Orbimed Advisors

Knoll Capital Fund II Master Fund, Ltd.
Europa International, Inc.

By: /s/ Fred Knoll
Name: Fred Knoll
Title: Portfolio Manager

Hunt-BioVentures, L.P.
By : HBV GP, L.L.C, its General Partner

By: /s/ J. Fulton Murray, IIII
Name: J. Fulton Murray, III
Title: Manager

WARRANT AMENDMENT AGREEMENT

THIS WARRANT AMENDMENT AGREEMENT (" **Amendment**") is made as of this 11th day of April, 2008 by and among Novelos Therapeutics, Inc., a Delaware corporation (the "**Company**") and the undersigned holders of warrants to purchase 7,500,000 shares of the Company's common stock dated May 2, 2007 (the "**Series B Warrants**") issued pursuant a certain Securities Purchase Agreement, dated as of April 12, 2007, by and among the Corporation and the Investors signatory thereto (as amended on May 2, 2007, the "**Series B Purchase Agreement**"). All capitalized terms used but not defined herein shall have the meanings ascribed thereto in the Series B Warrants.

WHEREAS, pursuant to Section 21 of the Series B Warrants, the Series B Warrants may amended with the written consent of the Company and the Requisite Holders (as such term is defined in the Series B Purchase Agreement) and any such amendment shall apply to all of the Series B Warrants; and

WHEREAS, the Company and the undersigned holders of Series B Warrants, which holders include the Requisite Holders, desire to amend the Series B Warrants;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree that the Series B Warrants are hereby amended as follows:

1) The Expiration Date, as defined in Paragraph 1, is hereby changed to April 11, 2013 from May 2, 2012.

2) The Warrant Price, as defined in Paragraph 1 is hereby reduced to $0.65 from $1.25.

3) Section 7 is amended and restated as follows:

Section 7. Reservation of Common Stock. The Corporation hereby represents and warrants that there have been reserved, and the Corporation shall at all applicable times keep reserved until issued (if necessary) as contemplated by this Section 7, out of the authorized and unissued shares of Common Stock, 100% of the number of shares issuable upon exercise of the rights of purchase represented by this Warrant. The Corporation agrees that all Warrant Shares issued upon due exercise of the Warrant shall be, at the time of delivery of the certificates for such Warrant Shares, duly authorized, validly issued, fully paid and non-assessable shares of Common Stock of the Corporation.

4) Section 15 is amended and restated as follows:

Section 15. Registration Rights. The initial holder of this Warrant is entitled to the benefit of certain registration rights with respect to the shares of Common Stock issuable upon the exercise of this Warrant as provided in the Registration Rights Agreement dated April 11, 2008, by and between the Warrantholders and the Corporation, and any subsequent holder hereof shall be entitled to such rights to the extent provided in the Registration Rights Agreement.

5) Section 19 is hereby amended by deleting the first sentence thereof and replacing it with the following:

Cashless Exercise. If, at any time after the six-month anniversary of the Original Issue Date, there is no effective registration statement covering all or any part of the Warrant Shares filed under the Securities Act, the Warrantholder may elect to receive, without the payment by the Warrantholder of the aggregate Warrant Price in respect of the shares of Common Stock to be acquired upon exercise hereof, shares of Common Stock equal to the value of this Warrant or any portion hereof being exercised pursuant to this Section 19 by the surrender of this Warrant (or such portion of this Warrant being so exercised) together with the Net Issue Election Notice annexed hereto as Appendix B duly executed, at the office of the Corporation.

6) Section 20 is amended and restated as follows:

Section 20. Redemption. If the registration statement covering the resale of all of the Warrant Shares underlying all of the Warrants is declared effective by the SEC, and is then effective, and the daily VWAP of the Common Stock for twenty (20) consecutive trading days exceeds $2.50 per share (subject to appropriate adjustment from time to time in the event of any stock dividend, stock split, reverse stock split, reclassification, stock combination or other recapitalization affecting the Common Stock), and the Company has provided the Warrantholder notice that this redemption provision of this Warrant has been triggered, then Warrantholders shall have up to thirty (30) days to exercise this Warrant in accordance with Section 3 at the Warrant Price then in effect. On and after the thirty-first day, this Warrant, to the extent unexercised, shall no longer be exercisable and shall be converted into a right to receive $.01 per share for the number of shares for which the Warrant had been exercisable at the end of the thirtieth day.

[The remainder of this page is intentionally left blank.]

IN WITNESS WHEREOF, the undersigned have executed this Warrant Amendment Agreement or caused its duly authorized officers to execute this Warrant Amendment Agreement as of the date first above written.

NOVELOS THERAPEUTICS, INC.

By: /s/ Harry S. Palmin
Name: Harry S. Palmin
Title: President and CEO

WARRANTHOLDERS

Xmark Opportunity Fund, Ltd.
Xmark Opportunity Fund, L.P.
Xmark JV Investment Partners, LLC

By: /s/ Mitchell D. Kaye
Name: Mitchell D. Kaye
Title: Authorized Signatory

Caduceus Capital Master Fund Limited
Caduceus Capital II, L.P.
UBS Eucalyptus Fund, L.L.C.
PW Eucalyptus Fund, Ltd.

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Partner, Orbimed Advisors

Knoll Capital Fund II Master Fund, Ltd.
Europa International, Inc.

By: /s/ Fred Knoll
Name: Fred Knoll
Title: Portfolio Manager

Hunt-BioVentures, L.P.
By : HBV GP, L.L.C, its General Partner

By: /s/ J. Fulton Murray, IIII
Name: J. Fulton Murray, III
Title: Manager

FOR IMMEDIATE RELEASE

NOVELOS THERAPEUTICS CLOSES $5.7 MILLION PRIVATE PLACEMENT

NEWTON, Mass., April 11, 2008 – Novelos Therapeutics, Inc. (OTCBB: NVLT), a biopharmaceutical company focused on the development of therapeutics to treat cancer and hepatitis, today announced that it closed its previously announced private placement with existing institutional investors resulting in approximately $5.7 million in gross proceeds through the sale of shares of a new series of its convertible preferred stock and warrants to purchase its common stock. Novelos sold 113.5 shares of Series D convertible preferred stock, having a stated value equal to $50,000 per share, a cumulative annual dividend of 9% of stated value and a conversion price of $0.65 per share of common stock. The investors also received warrants, callable in certain circumstances, expiring in five years to purchase an aggregate of 4,365,381 shares of common stock at an exercise price of $0.65 per share.

The institutional investors are Xmark Opportunity Funds, OrbiMed Advisors, Knoll Capital and Hunt BioVentures. Rodman & Renshaw, LLC, a subsidiary of Rodman and Renshaw Capital Group, Inc. (NASDAQ: RODM) served as an exclusive placement agent, and received a cash fee at the closing of the transaction. The preferred stock and warrants were issued in a private placement transaction under Regulation D of the Securities of Act of 1933 and have not been registered under the Securities Act of 1933, as amended, or any state securities laws, and may not be offered or sold in the United States absent registration with the Securities and Exchange Commission (the "SEC") or an applicable exemption from the registration requirements. Novelos has agreed to file a registration statement with the SEC covering resales of the common stock issuable upon conversion of the newly issued shares of preferred stock and upon exercise of the warrants.

"We are very pleased to have these excellent institutional investors continue to support Novelos, providing funds for our current development programs into late-2008," said Harry Palmin, President and CEO of Novelos. "Additional monies may come later this year from our ex-US partnering initiative or warrant exercises. Fundamentally, we expect data from the Phase 2 breast cancer trial this quarter and detailed results of the Phase 2 ovarian cancer trial will be presented at ASCO (May 30 – June 2). We also expect conclusion of our pivotal Phase 3 lung cancer trial in mid-2009."

About Novelos Therapeutics, Inc.
Novelos Therapeutics, Inc. is a biopharmaceutical company commercializing oxidized glutathione-based compounds for the treatment of cancer and hepatitis. NOV-002, the lead compound currently in Phase 3 development for lung cancer under a SPA and Fast Track, acts together with chemotherapy as a chemoprotectant and an immunomodulator. NOV-002 is also in Phase 2 development for chemotherapy-resistant ovarian cancer and early-stage breast cancer. NOV-205 acts as a hepatoprotective agent with immunomodulating and anti-inflammatory properties. NOV-205 is in Phase 1b development for chronic hepatitis C non-responders. Both compounds have completed clinical trials in humans and have been approved for use in the Russian Federation where they were originally developed. For additional information about Novelos please visit www.novelos.com

###

COMPANY
Harry S. Palmin, President and CEO
Ph: 617-244-1616 x11
Email: hpalmin@novelos.com

INVESTOR RELATIONS
Stephen Lichaw
Ph: 201-240-3200
Email: slichaw@novelos.com

Novelos Therapeutics, Inc.
One Gateway Center, Suite 504
Newton, MA 02458

This news release contains forward-looking statements. Such statements are valid only as of today, and we disclaim any obligation to update this information. These statements are subject to known and unknown risks and uncertainties that may cause actual future experience and results to differ materially from the statements made. These statements are based on our current beliefs and expectations as to such future outcomes. Drug discovery and development involve a high degree of risk. Factors that might cause such a material difference include, among others, uncertainties related to the ability to attract and retain partners for our technologies, the identification of lead compounds, the successful preclinical development thereof, the completion of clinical trials, the FDA review process and other government regulation, our pharmaceutical collaborators' ability to successfully develop and commercialize drug candidates, competition from other pharmaceutical companies, product pricing and third-party reimbursement.