As filed with the Securities and Exchange Commission on September 15, 2009

Registration No. 333-

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

FORM S-1

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

NOVELOS THERAPEUTICS, INC.
(Name of registrant in its charter)

Delaware	**2834**	**04-3321804**
(State or other jurisdiction of incorporation or organization)	*(Primary Standard Industrial Classification Code Number)*	*(I.R.S. employer identification number)*

One Gateway Center
Suite 504
Newton, Massachusetts 02458
(617) 244-1616
(Address and telephone number of principal executive offices)

Harry S. Palmin
President and Chief Executive Officer
Novelos Therapeutics, Inc.
One Gateway Center, Suite 504
Newton, Massachusetts 02458
(617) 244-1616
(Name, address and telephone number of agent for service)

Copies to:
Paul Bork, Esq.
Foley Hoag LLP
155 Seaport Boulevard
Boston, Massachusetts 02110
(617) 832-1000

Approximate date of proposed sale to the public: As soon as practicable after this Registration Statement becomes effective.

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 ("Securities Act"), check the following box. ☒

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

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

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

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. ☐

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

(Check one):

Large accelerated filer ☐ Accelerated filer ☐
Non-accelerated filer ☐ Smaller reporting company ☒
(Do not check if a smaller reporting company)

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	**Amount to be Registered (1)**	**Proposed Maximum Offering Price Per Share (2)**	**Proposed Maximum Aggregate Offering Price**	**Amount of Registration Fee**
Common Stock, par value $0.00001 per share	37,649,442(3)	$ 0.80	$30,119,553.60	$ 1,680.67

Common Stock, par value $0.00001 per share	21,096,150(4)	$	0.80	16,876,920.00	941.73
				Total	$ 2,622.40

(1) Pursuant to Rule 416 promulgated under the Securities Act of 1933, as amended, the shares of common stock offered hereby also include an indeterminate number of additional shares of common stock as may from time to time become issuable by reason of stock splits, stock dividends, recapitalizations or other similar transactions.

(2) Estimated based on the closing price of our common stock as reported over-the-counter on the OTC Electronic Bulletin Board of the National Association of Securities Dealers, Inc. on September 11, 2009 pursuant to Rule 457(c) promulgated under the Securities Act of 1933.

(3) Represents shares of our common stock issuable upon conversion of our Series E Preferred Stock issued to investors in a private placement transaction completed on February 11, 2009.

(4) Represents the number of shares of our common stock issuable upon exercise of common stock purchase warrants issued to investors or amended in connection with a private placement transaction completed on February 11, 2009.

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

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

Subject to completion dated September 15, 2009

PROSPECTUS

58,745,592 shares of common stock

NOVELOS THERAPEUTICS, INC.

This prospectus relates to the resale, from time to time, of up to 58,745,592 shares of our common stock by the stockholders referred to throughout this prospectus as "selling stockholders." Of the total shares of our common stock offered in this prospectus, 37,649,442 are issuable upon conversion of shares of our Series E Preferred Stock and 21,096,150 are issuable upon the exercise of common stock purchase warrants.

The selling stockholders will receive all of the proceeds from the sales made under this prospectus. Accordingly, we will receive no part of the proceeds from sales made under this prospectus. We are paying the expenses incurred in registering the shares, but all selling and other expenses incurred by the selling stockholders will be borne by the selling stockholders.

Our common stock is quoted on the OTC Electronic Bulletin Board of the National Association of Securities Dealers, Inc. under the symbol "NVLT.OB." On September 14, 2009, the last reported sale price of our common stock on the OTC Electronic Bulletin Board was $0.78 per share.

Investing in our common stock involves a high degree of risk.
See risk factors beginning on page 8 of this prospectus.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is [ ], 2009

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No dealer, salesperson or other person has been authorized to give any information or to make any representations other than those contained in this prospectus in connection with the offer contained in this prospectus and, if given or made, such information or representations must not be relied upon as having been authorized by us.

Neither the delivery of this prospectus nor any sale made hereunder shall under any circumstances create an implication that there has been no change in our affairs since the date hereof. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy securities other than those specifically offered hereby or of any securities offered hereby in any jurisdiction where, or to any person to whom, it is unlawful to make such offer or solicitation. The information contained in this prospectus speaks only as of the date of this prospectus unless the information specifically indicates that another date applies.

This prospectus has been prepared based on information provided by us and by other sources that we believe are reliable. This prospectus summarizes certain documents and other information in a manner we believe to be accurate, but we refer you to the actual documents, if any, for a more complete understanding of what we discuss in this prospectus. In making a decision to invest in the common stock, you must rely on your own examination of us and the terms of the offering and the common stock, including the merits and risks involved.

We are not making any representation to you regarding the legality of an investment in our common stock under any legal investment or similar laws or regulations. You should not consider any information in this prospectus to be legal, business, tax or other advice. You should consult your own attorney, business advisor and tax advisor for legal, business and tax advice regarding an investment in our common stock.

PROSPECTUS SUMMARY

The following summary highlights certain material aspects of the offering for resale of common stock by the selling stockholders covered by this prospectus but may not contain all of the information that is important to you. You should read this summary together with the more detailed information regarding our company, our common stock and our financial statements and notes to those statements appearing elsewhere in this prospectus, including the "RISK FACTORS" beginning on page 8.

Business of Novelos

We are a biopharmaceutical company, established in 1996, commercializing oxidized glutathione-based compounds for the treatment of cancer and hepatitis.

NOV-002, our lead compound, is currently in Phase 3 development for non-small cell lung cancer. NOV-002 is intended for use in combination with chemotherapy to act as a chemopotentiator and a chemoprotectant. The primary endpoint of this trial is improvement in median overall survival. Patient enrollment commenced in November 2006 and targeted enrollment was reached in March 2008. We anticipate that results for this trial will be available in early 2010.

NOV-002 is also being developed to treat early-stage breast cancer. In June 2007 we commenced enrollment in a U.S. Phase 2 neoadjuvant breast trial, which is ongoing at The University of Miami and The Medical University of South Carolina to evaluate the ability of NOV-002 to enhance the effectiveness of chemotherapy.

NOV-002 is also being developed to treat chemotherapy-resistant ovarian cancer. A U.S. Phase 2 trial was completed in 2008 at Massachusetts General Hospital and Dana-Farber Cancer Institute.

Based on results to-date, we intend to initiate several Phase 2 trials with NOV-002 in these and possibly other cancer indications. Our ability to initiate these trials, and the timing of such trials, will depend on available funding.

NOV-205, our second compound, is intended for use as a hepatoprotective agent with immunomodulating and anti-inflammatory properties. Our Investigational New Drug Application for NOV-205 as monotherapy for chronic hepatitis C has been accepted by the FDA. A U.S. Phase 1b clinical trial in patients who previously failed treatment with pegylated interferon plus ribavirin was completed in December 2007. Based on favorable safety results of that trial, we plan to initiate a longer duration, proof-of-concept trial in the event we obtain the additional funding necessary for that purpose.

Both compounds have completed clinical trials in humans and have been approved for use in Russia, where they were originally developed. A Russian company, ZAO BAM, has rights to the compounds in Russia and the other states of the former Soviet Union, other than Estonia, Latvia and Lithuania (the "Russian Territory"). We own all intellectual property rights worldwide, other than the Russian Territory, related to compounds based on oxidized glutathione, including NOV-002 and NOV-205. Our patent portfolio includes six U.S. issued patents, two European issued patents and one Japanese issued patent.

Novelos has a collaboration agreement with Lee's Pharmaceutical HK Ltd. ("Lee's Pharm") to develop, manufacture and commercialize, on an exclusive basis, NOV-002 and NOV-205 in China, Hong Kong, Taiwan and Macau (the "Chinese Territory"). Novelos has entered into a collaboration agreement with Mundipharma International Corporation Limited ("Mundipharma") to develop, manufacture and commercialize NOV-002, on an exclusive basis, in Europe (other than the Russian Territory), most of Asia (other than the Chinese Territory) and Australia.

The Offering

Securities Offered:	· 37,649,442 shares of our common stock issuable upon conversion of shares of our Series E Convertible Preferred Stock

· 21,096,150 shares of our common stock issuable upon the exercise of common stock purchase warrants.

Use of Proceeds:	We will not receive any of the proceeds from the sale by any selling stockholder of common stock or the conversion of preferred stock.
Total Shares of our Common Stock Outstanding as of September 1, 2009:	54,585,175

Issuance of Series E Shares and Warrants

Approximately 37,650,000 shares of the common stock offered hereby are issuable upon conversion of approximately 489.5 shares of our outstanding Series E Convertible Preferred Stock, stated value $50,000 per share ("Series E preferred stock"), having an aggregate stated value of approximately $24,475,000. A total of 645.442875 shares of Series E preferred stock was issued on February 11, 2009, and is convertible at a price of $0.65 per share of common stock. Of that total amount, 200 shares of Series E preferred stock were sold in a private placement together with warrants to purchase up to 9,230,769 shares of common stock at an exercise price of $0.65 per share, to Purdue Pharma, L.P. ("Purdue"), an independent associated company of Mundipharma, for a gross purchase price of $10,000,000 (approximately $9,200,000 net after deduction of advisor fees and transaction expenses). This sale took place concurrently with the entry into the collaboration agreement with Mundipharma. The remaining 445.442875 shares of the Series E preferred stock were issued in exchange for all of our then outstanding shares of our Series D Convertible Preferred Stock, stated value $50,000 per share ("Series D preferred stock"), which had been issued in a private placement to accredited investors in April 2008. At the time of that exchange, warrants to purchase 11,865,381 shares of our common stock at an exercise price of $0.65 per share held by the former Series D investors were amended, primarily to extend their exercisability until December 31, 2015, the date on which the warrants issued to Purdue cease to be exercisable. The shares of common stock issuable upon exercise of the warrants held by Purdue and the former Series D investors are also being offered pursuant to this registration statement.

We previously registered under the Securities Act of 1933, 12,000,000 shares of our common stock issuable upon conversion of 156 shares of Series E preferred stock held by the former Series D investors.

Summary Financial Information

The following table provides selected financial and operating data for the periods indicated:

	Six Months Ended June 30,		Year Ended December 31,	
	2009	**2008**	**2008**	**2007**
Revenue	$ 63,281	$ 54,009	$ 125,968	$ –
Costs and expenses	4,355,233	11,937,455	16,716,985	20,294,187
Other income (expense)	(2,377,845)	105,712	139,611	737,052
Net loss	(6,669,797)	(11,777,734)	(16,451,406)	(19,557,135)
Net loss attributable to common stockholders	(9,036,734)	(17,128,297)	(22,960,823)	(29,721,338)
Current assets	4,578,792	5,699,642	1,392,237	11,059,501
Current liabilities	7,899,318	8,238,837	6,617,206	7,059,390
Total assets	4,655,078	5,753,832	1,466,038	11,107,660

Our principal executive offices are located at One Gateway Center, Suite 504, Newton, Massachusetts 02458 and our telephone number is (617) 244-1616.

RISK FACTORS

The following risk factors should be considered carefully in addition to the other information contained in this prospectus:

Risks Related to Our Business and Industry

We still have short-term financing needs.

The report from our independent registered public accounting firm dated March 17, 2009 and included with our annual report on Form 10-K indicated that factors existed that raised substantial doubt about our ability to continue as a going concern. As reported in our Form 10-Q for the quarter ended June 30, 2009, we had cash and cash equivalents of approximately $4,500,000 which was sufficient to allow continuation of the pivotal Phase 3 clinical trial of our lead compound, NOV-002, in non-small cell lung cancer into late 2009, but was not sufficient to reach the conclusion of the trial. The primary endpoint of the Phase 3 trial is increased median overall survival, to be measured following the occurrence of 725 deaths. We anticipate that the results from this trial will be available in early 2010. On August 25, 2009 we entered into a Securities Purchase Agreement (the "August 2009 Purchase Agreement") with Purdue contemplating the issuance and sale at two or more closings of up to 13,636,364 shares of our common stock and warrants to purchase up to 4,772,728 shares of our common stock for an aggregate purchase price of $9,000,000. We believe that the addition of all $9,000,000 to our funds at June 30, 2009 would allow us to operate beyond the conclusion of the Phase 3 trial and into the third quarter of 2010. However, at the initial closing under the August 2009 Purchase Agreement, we were able to sell to Purdue only 5,303,030 shares of common stock and a warrant to purchase 1,856,062 shares of common stock for gross proceeds of $3,500,000 because we did not have enough authorized but unissued (and unreserved) shares of our common stock. Having undertaken the expanded development program for NOV-002 contemplated under the August 2009 Purchase Agreement (described below), the $3,500,000 of gross proceeds received at the initial closing does not provide us with sufficient funds to operate through the anticipated conclusion of the Phase 3 trial in early 2010. In order to be able to obtain the results of the Phase 3 trial, we must raise additional funds by completing the sale of our securities to Purdue under the August 2009 Purchase Agreement or by other means.

The August 2009 Purchase Agreement required us to adopt an expanded development and regulatory plan for NOV-002 (the "Plan") which contemplates substantial expenditures through mid 2010 in addition to clinical development expenditures previously contemplated for the completion of the Phase 3 trial. We are required to use proceeds from the sale of securities under the August 2009 Purchase Agreement for the expenditures identified in the Plan. We have begun to incur obligations in accordance with the Plan, on the assumption that we will be able to consummate the sale of the remaining securities to Purdue and obtain the balance of the $9,000,000 in purchase price in a timely manner. If we are unable to consummate such sale, in a timely manner or at all, we will need to obtain other sources of funds to complete the Phase 3 trial and may need to scale back administrative activities, terminate other clinical development and programs or cease operation entirely.

We need an additional 11,250,000 shares of authorized common stock available in order to receive the remaining proceeds under the August 2009 Purchase Agreement.

The August 2009 Purchase Agreement contemplates the sale of the remaining 8,333,334 shares of common stock and warrants to purchase 2,916,666 shares of common stock to Purdue for aggregate proceeds of approximately $5,500,000 at one or more closings prior to the time that the Phase 3 trial results become available to Purdue. Such closing or closings are subject to certain customary closing conditions, in addition to the availability of additional authorized but unissued and unreserved shares of common stock. We have scheduled a special meeting of shareholders, to be held in the fourth quarter of 2009, at which we will ask our shareholders to approve an amendment to our certificate of incorporation increasing the number of authorized shares of common stock to allow for the completion of the transaction with Purdue. There can be no assurance that such approval will be obtained.

We have intermediate term financing needs.

The primary endpoint of our Phase 3 clinical trial in non-small cell lung cancer is increased median overall survival, to be measured following the occurrence of 725 events (deaths). We anticipate that the results from this trial will be available in early 2010. Assuming we are able to complete the sales of securities contemplated under the Purchase Agreement in a timely manner, our ability to execute our operating plan beyond the third quarter of 2010 is dependent on our ability to obtain additional capital (including through the sale of equity and debt securities at any time and by entering into collaborative arrangements for licensing rights in North America), to fund our development activities. We plan to pursue these alternatives, but there can be no assurance that we will obtain the additional capital necessary to fund our business beyond the third quarter of 2010. The timing and content of the Phase 3 clinical trial results will affect our projected cash requirements and our ability to obtain capital. If the results are favorable, we believe we will be able to obtain adequate funding to pursue our strategic objectives and clinical development programs longer term. If the results of our Phase 3 clinical trial are not favorable, we may be unable to obtain additional funding, and we may be required to scale back our administrative activities and clinical development programs, or cease our operations entirely. Furthermore, adverse conditions in the capital markets globally may impair our ability to obtain funding in a timely manner.

Purdue has obtained certain rights that may discourage third parties from entering into discussions with us to acquire rights to NOV-002 for the United States.

Until Purdue receives certain information related to our Phase 3 clinical trial in non-small cell lung cancer, Novelos is prohibited from negotiating with any party other than Purdue for the license or other acquisition of rights to register, develop, make, have made, use, warehouse, promote, market, sell, have sold, import, distribute and offer for sale NOV-002 (collectively "NOV-002 Rights") in the United States. Purdue has been granted a right of first refusal on bona fide offers to obtain NOV-002 Rights in the United States received from third parties. Under Purdue's right of first refusal, Purdue will have 30 days to enter into a definitive agreement with Novelos on terms representing the same economic benefit for Novelos as in the third-party offer. The right of first refusal terminates only upon specified business combinations or if Purdue fails to purchase our securities at a subsequent closing under the Purchase Agreement where Novelos has satisfied all conditions to Purdue's obligation to close. Novelos has separately entered into separate letter agreements with Mundipharma and an independent associated company providing for a conditional exclusive right to negotiate for, and a conditional right of first refusal with respect to third party offers to obtain NOV-002 Rights (i) for Mexico, Central America, South America and the Caribbean and (ii) for Canada, respectively. The existence of these rights may discourage other possible strategic partners from entering into discussions with us to obtain NOV-002 Rights in North and South America.

We may have difficulty raising additional capital for our future operations in the longer term.

We currently generate insignificant revenue from our proposed products or otherwise. We do not know when this will change. We have expended and will continue to expend substantial funds on the research, development and clinical and pre-clinical testing of our drug compounds. We will require additional funds to conduct research and development, establish and conduct clinical and pre-clinical trials, establish commercial-scale manufacturing arrangements and provide for the marketing and distribution of our products. Additional funds may not be available on acceptable terms, if at all. If adequate funding is not available to us, we may have to delay, reduce the scope of or eliminate one or more of our research or development programs or product launches or marketing efforts, which may materially harm our business, financial condition and results of operations.

Our capital requirements and our ability to meet them depend on many factors, including:

- the number of potential products and technologies in development;
- continued progress and cost of our research and development programs;
- progress with pre-clinical studies and clinical trials, including the results of our Phase 3 clinical trial expected in early 2010;
- the time and costs involved in obtaining regulatory clearance;
- costs involved in preparing, filing, prosecuting, maintaining and enforcing patent claims;
- costs of developing sales, marketing and distribution channels and our ability to sell our drugs;

- costs involved in establishing manufacturing capabilities for clinical trial and commercial quantities of our drugs;
- competing technological and market developments;
- market acceptance of our products;
- costs for recruiting and retaining management, employees and consultants;
- costs for educating physicians;
- our status as a Bulletin-Board listed company and the prospects for our stock being listed on a national exchange;
- uncertainty and economic instability resulting from terrorist acts and other acts of violence or war; and
- the condition of capital markets and the economy generally, both in the U.S. and globally.

We may consume available resources more rapidly than currently anticipated, resulting in the need for additional funding sooner than expected. We may seek to raise any necessary additional funds through the issuance of warrants, equity or debt financings or executing collaborative arrangements with corporate partners or other sources, which may be dilutive to existing stockholders or otherwise have a material effect on our current or future business prospects. In addition, in the event that additional funds are obtained through arrangements with collaborative partners or other sources, we may have to relinquish economic and/or proprietary rights to some of our technologies or products under development that we would otherwise seek to develop or commercialize by ourselves. If adequate funds are not available, we may be required to significantly reduce or refocus our development efforts with regard to our drug compounds.

The failure to complete development of our therapeutic technology, to obtain government approvals, including required FDA approvals, or to comply with ongoing governmental regulations could prevent, delay or limit introduction or sale of proposed products and result in failure to achieve revenues or maintain our ongoing business.

Our research and development activities and the manufacture and marketing of our intended products are subject to extensive regulation for safety, efficacy and quality by numerous government authorities in the United States and abroad. Before receiving FDA clearance to market our proposed products, we will have to demonstrate that our products are safe and effective for the patient population for the diseases that are to be treated. Clinical trials, manufacturing and marketing of drugs are subject to the rigorous testing and approval process of the FDA and equivalent foreign regulatory authorities. The Federal Food, Drug and Cosmetic Act and other federal, state and foreign statutes and regulations govern and influence the testing, manufacturing, labeling, advertising, distribution and promotion of drugs and medical devices. As a result, clinical trials and regulatory approval can take many years to accomplish and require the expenditure of substantial financial, managerial and other resources.

In order to be commercially viable, we must successfully research, develop, obtain regulatory approval for, manufacture, introduce, market and distribute our technologies. For each drug using oxidized glutathione-based compounds, including NOV-002 and NOV-205, we must successfully meet a number of critical developmental milestones including:

- demonstrating benefit from delivery of each specific drug for specific medical indications;
- demonstrating through pre-clinical and clinical trials that each drug is safe and effective; and
- demonstrating that we have established viable Good Manufacturing Practices capable of potential scale-up.

The timeframe necessary to achieve these developmental milestones may be long and uncertain, and we may not successfully complete these milestones for any of our intended products in development.

In addition to the risks previously discussed, our technology is subject to developmental risks that include the following:

- uncertainties arising from the rapidly growing scientific aspects of drug therapies and potential treatments;

- uncertainties arising as a result of the broad array of alternative potential treatments related to cancer, hepatitis and other diseases; and
- anticipated expense and time believed to be associated with the development and regulatory approval of treatments for cancer, hepatitis and other diseases.

In order to conduct the clinical trials that are necessary to obtain approval by the FDA to market a product, it is necessary to receive clearance from the FDA to conduct such clinical trials. The FDA can halt clinical trials at any time for safety reasons or because we or our clinical investigators do not follow the FDA's requirements for conducting clinical trials. If we are unable to receive clearance to conduct clinical trials for a product, or the trials are halted by the FDA, we will not be able to achieve any revenue from such product in the U.S, as it is illegal to sell any drug for use in humans in the U.S. without FDA approval.

Data obtained from clinical trials is susceptible to varying interpretations, which could delay, limit or prevent regulatory clearances.

Data already obtained, or obtained in the future, from pre-clinical studies and clinical trials does not necessarily predict the results that will be obtained from later pre-clinical studies and clinical trials. Moreover, pre-clinical and clinical data is susceptible to varying interpretations, which could delay, limit or prevent regulatory approval. A number of companies in the pharmaceutical industry have suffered significant setbacks in advanced clinical trials, even after promising results in earlier trials. The failure to adequately demonstrate the safety and effectiveness of an intended product under development could delay or prevent regulatory clearance of the potential drug, which would result in delays to commercialization and could materially harm our business. Our clinical trials may not demonstrate sufficient levels of safety and efficacy necessary to obtain the requisite regulatory approvals for our drugs, and our proposed drugs may not be approved for marketing.

We may encounter delays or rejections based on additional government regulation from future legislation or administrative action or changes in FDA policy during the period of development, clinical trials and FDA regulatory review. We may encounter similar delays in foreign countries. Sales of our products outside the U.S. would be subject to foreign regulatory approvals that vary from country to country. The time required to obtain approvals from foreign countries may be shorter or longer than that required for FDA approval, and requirements for foreign licensing may differ from FDA requirements. We may be unable to obtain requisite approvals from the FDA or foreign regulatory authorities, and even if obtained, such approvals may not be on a timely basis, or they may not cover the uses that we request.

Even if we do ultimately receive FDA approval for any of our products, these products will be subject to extensive ongoing regulation, including regulations governing manufacturing, labeling, packaging, testing, dispensing, prescription and procurement quotas, record keeping, reporting, handling, shipment and disposal of any such drug. Failure to obtain and maintain required registrations or to comply with any applicable regulations could further delay or preclude development and commercialization of our drugs and subject us to enforcement action.

Our drugs or technology may not gain FDA approval in clinical trials or be effective as a therapeutic agent, which could adversely affect our business and prospects.

In order to obtain regulatory approvals, we must demonstrate that each drug is safe and effective for use in humans and functions as a therapeutic against the effects of a disease or other physiological response. To date, studies conducted in Russia involving our NOV-002 and NOV-205 products have shown what we believe to be promising results. However, most of the Russian clinical studies were completed prior to 2000 and may not have been conducted in accordance with current guidelines either in Russia or in the United States. While we have experienced positive preliminary results in the earlier stage trials for certain indications in the U.S., there can be no assurance that we can demonstrate that these products are safe or effective in advanced clinical trials. We are also not able to give assurances that the results of the tests already conducted can be repeated or that further testing will support our applications for regulatory approval. As a result, our drug and technology research program may be curtailed, redirected or eliminated at any time. If this occurs, we may have to cease our operations entirely.

There is no guarantee that we will ever generate substantial revenue or become profitable even if one or more of our drugs are approved for commercialization.

We expect to incur operating losses over the next several years as we continue to incur costs for research and development and clinical trials. Our ability to generate revenue and achieve profitability depends on our ability, alone or with others, to complete the development of, obtain required regulatory approvals for and manufacture, market and sell our proposed products. Development is costly and requires significant investment. In addition, if we choose to license or obtain the assignment of rights to additional drugs, the license fees for such drugs may increase our costs.

To date, we have not generated any revenue from the commercial sale of our proposed products or any drugs and do not expect to receive any such revenue in the near future. Our primary activity to date has been research and development. A substantial portion of the research results and observations on which we rely were performed by third parties at those parties' sole or shared cost and expense. We cannot be certain as to when or whether commercialization and marketing our proposed products in development will occur, and we do not expect to generate sufficient revenues, from proposed product sales or otherwise, to cover our expenses or achieve profitability in the near future.

We rely solely on research and manufacturing facilities at various universities, hospitals, contract research organizations and contract manufacturers for all of our research, development, and manufacturing, which could be materially delayed should we lose access to those facilities.

At the present time, we have no research, development or manufacturing facilities of our own. We are entirely dependent on contracting with third parties to use their facilities to conduct research, development and manufacturing. The lack of facilities of our own in which to conduct research, development and manufacturing may delay or impair our ability to gain FDA approval and commercialization of our drug delivery technology and products.

We believe that we have a good working relationship with our contractors. However, should the situation change, we may be required to relocate these activities on short notice, and we do not currently have access to alternate facilities to which we could relocate our research, development and/or manufacturing activities. The cost and time to establish or locate an alternate research, development and/or manufacturing facility to develop our technology would be substantial and would delay obtaining FDA approval and commercializing our products.

We are dependent on our collaborative arrangements for the development of our technologies and business development, exposing us to the risk of reliance on the viability of third parties.

In conducting our research, development and manufacturing activities, we rely and expect to continue to rely on numerous collaborative arrangements with universities, hospitals, governmental agencies, charitable foundations, manufacturers and others. The loss of any of these arrangements, or failure to perform under any of these arrangements, by any of these entities, may substantially disrupt or delay our research, development and manufacturing activities, including our anticipated clinical trials.

We may rely on third-party contract research organizations, service providers and suppliers to support development and clinical testing of our products. Failure of any of these contractors to provide the required services in a timely manner or on commercially reasonable terms could materially delay the development and approval of our products, increase our expenses and materially harm our business, financial condition and results of operations.

As a result of our collaboration agreements with Mundipharma and Lee's Pharm for the development, manufacture and commercialization of NOV-002 in Europe, Asia and Australia (and NOV-205 in the Chinese Territory), the commercial value of our products in those territories will largely be dependent on the ability of these collaborators to perform.

We are exposed to product, clinical and preclinical liability risks that could create a substantial financial burden should we be sued.

Our business exposes us to potential product liability and other liability risks that are inherent in the testing, manufacturing and marketing of pharmaceutical products. In addition, the use in our clinical trials of pharmaceutical products that we or our current or potential collaborators may develop and then subsequently sell may cause us to bear a portion of or all product liability risks. While we carry an insurance policy covering up to $5,000,000 per occurrence and $5,000,000 in the aggregate of liability incurred in connection with such claims should they arise, there can be no assurance that our insurance will be adequate to cover all situations. Moreover, there can be no assurance that such insurance, or additional insurance, if required, will be available in the future or, if available, will be available on commercially reasonable terms. Furthermore, our current and potential partners with whom we have collaborative agreements or our future licensees may not be willing to indemnify us against these types of liabilities and may not themselves be sufficiently insured or have a net worth sufficient to satisfy any product liability claims. A successful product liability claim or series of claims brought against us could have a material adverse effect on our business, financial condition and results of operations.

Acceptance of our products in the marketplace is uncertain and failure to achieve market acceptance will prevent or delay our ability to generate revenues.

Our future financial performance will depend, at least in part, on the introduction and customer acceptance of our proposed products. Even if approved for marketing by the necessary regulatory authorities, our products may not achieve market acceptance. The degree of market acceptance will depend on a number of factors including:

- the receipt of regulatory clearance of marketing claims for the uses that we are developing;
- the establishment and demonstration of the advantages, safety and efficacy of our technologies;
- pricing and reimbursement policies of government and third-party payers such as insurance companies, health maintenance organizations and other health plan administrators;
- our ability to attract corporate partners, including pharmaceutical companies, to assist in commercializing our intended products; and
- our ability to market our products.

Physicians, patients, payers or the medical community in general may be unwilling to accept, use or recommend any of our products. If we are unable to obtain regulatory approval or commercialize and market our proposed products as planned, we may not achieve any market acceptance or generate revenue.

We may face litigation from third parties who claim that our products infringe on their intellectual property rights, particularly because there is often substantial uncertainty about the validity and breadth of medical patents.

We may be exposed to future litigation by third parties based on claims that our technologies, products or activities infringe on the intellectual property rights of others or that we have misappropriated the trade secrets of others. This risk is exacerbated by the fact that the validity and breadth of claims covered in medical technology patents and the breadth and scope of trade-secret protection involve complex legal and factual questions for which important legal principles are unresolved. Any litigation or claims against us, whether or not valid, could result in substantial costs, could place a significant strain on our financial and managerial resources and could harm our reputation. Most of our license agreements would likely require that we pay the costs associated with defending this type of litigation. In addition, intellectual property litigation or claims could force us to do one or more of the following:

- cease selling, incorporating or using any of our technologies and/or products that incorporate the challenged intellectual property, which would adversely affect our ability to generate revenue;
- obtain a license from the holder of the infringed intellectual property right, which license may be costly or may not be available on reasonable terms, if at all; or
- redesign our products, which would be costly and time-consuming.

If we are unable to protect or enforce our rights to intellectual property adequately or to secure rights to third-party patents, we may lose valuable rights, experience reduced market share, assuming any, or incur costly litigation to protect our intellectual property rights.

Our ability to obtain licenses to patents, maintain trade secret protection and operate without infringing the proprietary rights of others will be important to our commercializing any products under development. Therefore, any disruption in access to the technology could substantially delay the development of our technology.

The patent positions of biotechnology and pharmaceutical companies that involve licensing agreements, including ours, are frequently uncertain and involve complex legal and factual questions. In addition, the coverage claimed in a patent application can be significantly reduced before the patent is issued or in subsequent legal proceedings. Consequently, our patent applications and any issued and licensed patents may not provide protection against competitive technologies or may be held invalid if challenged or circumvented. Our competitors may also independently develop products similar to ours or design around or otherwise circumvent patents issued or licensed to us. In addition, the laws of some foreign countries may not protect our proprietary rights to the same extent as U.S. law.

We also rely on trade secrets, technical know-how and continuing technological innovation to develop and maintain our competitive position. Although we generally require our employees, consultants, advisors and collaborators to execute appropriate confidentiality and assignment-of-inventions agreements, our competitors may independently develop substantially equivalent proprietary information and techniques, reverse engineer our information and techniques, or otherwise gain access to our proprietary technology. We may be unable to meaningfully protect our rights in trade secrets, technical know-how and other non-patented technology.

We may have to resort to litigation to protect our rights for certain intellectual property, or to determine their scope, validity or enforceability. Enforcing or defending our rights is expensive, could cause diversion of our resources and may not prove successful. Any failure to enforce or protect our rights could cause us to lose the ability to exclude others from using our technology to develop or sell competing products.

We have limited manufacturing experience. Even if our products are approved for manufacture and sale by applicable regulatory authorities, we may not be able to manufacture sufficient quantities at an acceptable cost, and our contract manufacturers could experience shut-downs or delays.

We remain in the research and development and clinical and pre-clinical trial phase of product commercialization. Accordingly, if our products are approved for commercial sale, we will need to establish the capability to commercially manufacture our products in accordance with FDA and other regulatory requirements. We have limited experience in establishing, supervising and conducting commercial manufacturing. If we fail to adequately establish, supervise and conduct all aspects of the manufacturing processes, we may not be able to commercialize our products.

We presently plan to rely on third-party contractors to manufacture our products. This may expose us to the risks of not being able to directly oversee the production and quality of the manufacturing process. Furthermore, these contractors, whether foreign or domestic, may experience regulatory compliance difficulties, mechanical shutdowns, employee strikes or other unforeseeable acts that may delay production.

Due to our limited marketing, sales and distribution experience, we may be unsuccessful in our efforts to sell our products, enter into relationships with third parties or develop a direct sales organization.

We have not yet had to establish marketing, sales or distribution capabilities for our proposed products. Until such time as our products are further along in the regulatory process, we will not devote any meaningful time and resources to this effort. We intend to enter into agreements with third parties at the appropriate time to sell our products or we may develop our own sales and marketing force. However, we may be unable to establish or maintain third-party relationships on a commercially reasonable basis, if at all. In addition, these third parties may have similar or more established relationships with our competitors.

If we do not enter into relationships with third parties for the sale and marketing of our products, we will need to develop our own sales and marketing capabilities. We have limited experience in developing, training or managing a sales force. If we choose to establish a direct sales force, we may incur substantial additional expenses in developing, training and managing such an organization. We may be unable to build a sales force on a cost-effective basis or at all. Any such direct marketing and sales efforts may prove to be unsuccessful. In addition, we will compete with many other companies that currently have extensive marketing and sales operations. Our marketing and sales efforts may be unable to compete against these other companies. We may be unable to establish a sufficient sales and marketing organization on a timely basis, if at all.

We may be unable to engage qualified distributors. Even if engaged, these distributors may:

- fail to adequately market our products;
- fail to satisfy financial or contractual obligations to us;
- offer, design, manufacture or promote competing products; or
- cease operations with little or no notice.

If we fail to develop sales, marketing and distribution channels, we would experience delays in product sales and incur increased costs, which would harm our financial results.

If we are unable to convince physicians of the benefits of our intended products, we may incur delays or additional expense in our attempt to establish market acceptance.

Achieving broad use of our products may require physicians to be informed regarding these products and their intended benefits. The time and cost of such an educational process may be substantial. Inability to successfully carry out this physician education process may adversely affect market acceptance of our products. We may be unable to timely educate physicians regarding our intended products in sufficient numbers to achieve our marketing plans or to achieve product acceptance. Any delay in physician education may materially delay or reduce demand for our products. In addition, we may expend significant funds towards physician education before any acceptance or demand for our products is created, if at all.

The market for our products is rapidly changing and competitive, and new therapeutics, new drugs and new treatments that may be developed by others could impair our ability to maintain and grow our business and remain competitive.

The pharmaceutical and biotechnology industries are subject to rapid and substantial technological change. Developments by others may render our technologies and intended products noncompetitive or obsolete, or we may be unable to keep pace with technological developments or other market factors. Technological competition from pharmaceutical and biotechnology companies, universities, governmental entities and others diversifying into the field is intense and is expected to increase. Most of these entities have significantly greater research and development capabilities and budgets than we do, as well as substantially more marketing, manufacturing, financial and managerial resources. These entities represent significant competition for us. Acquisitions of, or investments in, competing pharmaceutical or biotechnology companies by large corporations could increase our competitors' financial, marketing, manufacturing and other resources.

We operate with limited day-to-day business management, serve as a vehicle to hold certain technology for possible future exploration, and have been and will continue to be engaged in the development of new drugs and therapeutic technologies. As a result, our resources are limited and we may experience management, operational or technical challenges inherent in such activities and novel technologies. Competitors have developed or are in the process of developing technologies that are, or in the future may be, the basis for competition. Some of these technologies may accomplish therapeutic effects similar to those of our technology, but through different means. Our competitors may develop drugs and drug delivery technologies that are more effective than our intended products and, therefore, present a serious competitive threat to us.

The potential widespread acceptance of therapies that are alternatives to ours may limit market acceptance of our products even if they are commercialized. Many of our targeted diseases and conditions can also be treated by other medication or drug delivery technologies. These treatments may be widely accepted in medical communities and have a longer history of use. The established use of these competitive drugs may limit the potential for our technologies and products to receive widespread acceptance if commercialized.

If users of our products are unable to obtain adequate reimbursement from third-party payers, or if new restrictive legislation is adopted, market acceptance of our products may be limited, which could limit revenue we might otherwise generate from sales of our products.

The continuing efforts of government and insurance companies, health maintenance organizations and other payers of healthcare costs to contain or reduce costs of health care may adversely affect our ability to generate future revenues and achieve profitability, including by limiting the future revenues and profitability of our potential customers, suppliers and collaborative partners. For example, in certain foreign markets, pricing or profitability of prescription pharmaceuticals is subject to government control. In the U.S., federal and state governments have focused and will likely continue to focus, on healthcare reform, including initiatives directed at lowering the total cost of health care and the cost of prescription pharmaceuticals, as well as other reforms of the Medicare and Medicaid systems. While we cannot predict whether any such legislative or regulatory proposals will be adopted, the announcement or adoption of such proposals could materially harm our business, financial condition and results of operations.

Our ability to commercialize our products will depend in part on the extent to which appropriate reimbursement levels for the cost of our products and related treatment are obtained by governmental authorities, private health insurers and other organizations, such as health maintenance organizations (HMOs). Third-party payers are increasingly challenging the prices charged for medical drugs and services. Also, the trend toward managed health care in the United States and the concurrent growth of organizations such as HMOs that could control or significantly influence the purchase of healthcare services and drugs, as well as legislative proposals to reform health care or change government insurance programs, may all result in lower prices for or rejection of our drugs. The cost containment measures that healthcare payers and providers are instituting and the effect of any healthcare reform could materially harm our ability to operate profitably.

We depend on key personnel who may terminate their employment with us at any time, and our success will depend on our ability to hire additional qualified personnel.

Our success will depend to a significant degree on the continued services of key management and advisors to us. There can be no assurance that these individuals will continue to provide service to us. In addition, our success will depend on our ability to attract and retain other highly skilled personnel. We may be unable to recruit such personnel on a timely basis, if at all. Our management and other employees may voluntarily terminate their employment with us at any time. The loss of services of key personnel, or the inability to attract and retain additional qualified personnel, could result in delays in development or approval of our products, loss of sales and diversion of management resources.

Compliance with changing corporate governance and public disclosure regulations may result in additional expense.

Keeping abreast of, and in compliance with, changing laws, regulations and standards relating to corporate governance, public disclosure and internal controls, including the Sarbanes-Oxley Act of 2002, new SEC regulations and, in the event we seek and are approved for listing on a registered national securities exchange, the stock exchange rules, will require an increased amount of management attention and external resources. We intend to continue to invest all resources reasonably necessary to comply with evolving standards, which may result in increased general and administrative expense and a diversion of management time and attention from revenue-generating activities to compliance activities. In our annual report for the fiscal year ending December 31, 2009 we will be required to include an attestation report of our independent registered public accounting firm on internal control over financial reporting which may result in additional costs.

Risks Related to our Common Stock

In the time that our common stock has traded, our stock price has experienced price fluctuations.

There can be no assurance that the market price for our common stock will remain at its current level and a decrease in the market price could result in substantial losses for investors. The market price of our common stock may be significantly affected by one or more of the following factors:

- announcements or press releases relating to the bio-pharmaceutical sector or to our own business or prospects;
- regulatory, legislative, or other developments affecting us or the healthcare industry generally;
- the dilutive effect of conversion of our Series E or Series C preferred stock into common stock or the exercise of options and warrants;
- sales by those financing our company through convertible securities and warrants of the underlying common stock, when it is registered with the SEC and may be sold into the public market, immediately upon conversion or exercise; and
- market conditions specific to biopharmaceutical companies, the healthcare industry and the stock market generally.

There may be a limited public market for our securities; we may fail to qualify for listing on certain national securities exchanges.

In 2005 we filed applications for listing of our common stock on Archipelago and AMEX, but these applications were withdrawn primarily because our stock prices did not meet the listing requirements. Although we may reapply, there can be no assurance if and when initial listing criteria will be met or if such applications will be granted, or that the trading of our common stock will be sustained. In the event that our common stock fails to qualify for initial or continued listing on a registered stock exchange, trading, if any, in our common stock, would then continue to be conducted on the electronic bulletin board in the over-the-counter market and in what are commonly referred to as 'pink sheets'. As a result, an investor may find it difficult to dispose of or to obtain accurate quotations as to the market value of our common stock, and our common stock may be less attractive for margin loans, for investment by financial institutions, as consideration in future capital raising transactions or other purposes.

Our common stock constitutes a "penny stock" under SEC rules, which may make it more difficult to resell shares of our common stock.

Our common stock constitutes a "penny stock" under applicable SEC rules. These rules impose additional sales practice requirements on broker-dealers that recommend the purchase or sale of penny stocks to persons other than those who qualify as "established customers" or "accredited investors." For example, broker-dealers must determine the appropriateness for non-qualifying persons of investments in penny stocks and make special disclosures concerning the risks of investments in penny stocks.

Many brokerage firms will discourage or refrain from recommending investments in penny stocks. Most institutional investors will not invest in penny stocks. In addition, many individual investors will not invest in penny stocks due, among other reasons, to the increased financial risk generally associated with these investments. For these reasons, the fact that our common stock is a penny stock may limit the market for our common stock and, consequently, the liquidity of an investment in our common stock.

Our executive officers, directors and principal stockholders have substantial holdings, which could delay or prevent a change in corporate control favored by our other stockholders.

Holders of our Series E preferred stock beneficially own, in the aggregate, approximately 54% of our outstanding voting shares on an as-converted basis (subject to certain blocking provisions that may be waived with 61 days' notice). In addition, our executive officers, directors and other principal stockholders own in excess of 5% of our outstanding voting shares calculated on the same basis. The interests of our current officers, directors and Series E investors may differ from the interests of other stockholders. Further, our current officers, directors and Series E investors may have the ability to significantly affect the outcome of all corporate actions requiring stockholder approval, including the following actions:

- the election of directors;
- the amendment of charter documents;
- issuance of blank-check preferred or convertible stock, notes or instruments of indebtedness which may have conversion, liquidation and similar features, or completion of other financing arrangements; or
- the approval of certain mergers and other significant corporate transactions, including a sale of substantially all of our assets, (and in the case of licensing, any material intellectual property) or merger with a publicly-traded shell or other company.

Our common stock could be further diluted as the result of the issuance of additional shares of common stock, convertible securities, warrants or options.

In the past, we have issued common stock, convertible securities, such as convertible preferred stock, and warrants in order to raise money. We have also issued options and warrants as compensation for services and incentive compensation for our employees and directors. We have shares of common stock reserved for issuance upon the conversion and exercise of these securities and may increase the shares reserved for these purposes in the future. Our issuance of additional common stock, convertible securities, options and warrants could affect the rights of our stockholders, could reduce the market price of our common stock or could result in adjustments to conversion or exercise prices of outstanding preferred stock and warrants (resulting in these securities becoming convertible into or exercisable for, as the case may be, a greater number of shares of our common stock), or could obligate us to issue additional shares of common stock to certain of our stockholders.

We are prohibited from taking certain actions and entering into certain transactions without the consent of holders of our Series E preferred stock.

For as long as any shares of Series E preferred stock remain outstanding we are prohibited from taking certain actions or entering into certain transactions without the prior consent of specific holders of outstanding shares of Series E preferred stock (currently consisting of the Xmark affiliated funds, the OrbiMed affilated funds and Purdue). We are prohibited from paying dividends to common stockholders, amending our certificate of incorporation or by-laws, 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 E preferred stock (except for certain exempted issuances), increasing the number of shares of Series E preferred stock or issuing any additional shares of Series E preferred stock other than the 735 shares designated in the Series E Certificate of Designations, or changing the number of our directors. We are also prohibited from entering into certain transactions such as:

- selling or otherwise disposing of all or substantially all of our assets (and in the case of licensing, any material intellectual property) or entering into a merger or consolidation with another company unless we are the surviving corporation, the Series E preferred stock remains outstanding and there are no changes to the rights and preferences of the Series E preferred stock;
- redeeming or repurchasing any capital stock other than Series E preferred stock or the related warrants; or
- incurring any new debt for borrowed money in excess of $500,000.

Even though our board of directors may determine that any of these actions are in the best interest of the Company or our shareholders, we may be unable to complete them if we do not get the approval of specific holders of the outstanding shares of Series E preferred stock. The interests of the holders of Series E preferred stock may differ from those of stockholders generally. Moreover, the rights of first refusal and the exclusive negotiation rights granted to Purdue and its independent associated companies under the August 2009 Purchase Agreement and the collaboration agreement with Mundipharma (our collaborator on most non-U.S. development, manufacturing and commercialization of NOV-002) have the potential of creating situations where the interests of the Company and those of Purdue may conflict. If we are unable to obtain consent from each of the holders identified above, we may be unable to complete actions or transactions that our board of directors has determined are in the best interest of the Company and its shareholders.

We have not paid dividends to preferred stockholders totaling $1,670,000 as of June 30, 2009 and we may be unable to pay dividends to preferred stockholders when due in future periods.

Our ability to pay cash dividends on stated future dividend payment dates will be dependent on a number of factors including the timing of future financings and the amount of net losses in future periods. We anticipate that future dividends on Series E preferred stock will be paid by issuing shares of common stock or additional shares of Series E preferred stock, which will result in additional dilution to existing shareholders. We anticipate that the accrued unpaid dividend on our Series C preferred stock ($540,000 at June 30, 2009) will continue to accumulate.

FORWARD-LOOKING STATEMENTS

Except for historical facts, the statements in this prospectus are forward-looking statements. Forward-looking statements are merely our current predictions of future events. These statements are inherently uncertain, and actual events could differ materially from our predictions. Important factors that could cause actual events to vary from our predictions include those discussed under the headings “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Business.” We assume no obligation to update our forward-looking statements to reflect new information or developments. We urge readers to review carefully the risk factors described in this prospectus and the other documents that we file with the Securities and Exchange Commission. You can read these documents at *www.sec.gov* .

WE UNDERTAKE NO OBLIGATION TO PUBLICLY UPDATE OR REVISE ANY FORWARD-LOOKING STATEMENTS WHETHER AS A RESULT OF NEW INFORMATION, NEW EVENTS OR ANY OTHER REASON, OR REFLECT ANY EVENTS OR CIRCUMSTANCES AFTER THE DATE OF THIS PROSPECTUS OR THE DATE OF ANY APPLICABLE PROSPECTUS SUPPLEMENT THAT INCLUDES FORWARD-LOOKING STATEMENTS.

USE OF PROCEEDS

The selling stockholders will receive all of the proceeds from the sale of the shares offered for sale by them under this prospectus. We will not receive any proceeds from the resale of shares by the selling stockholders covered by this prospectus.

MARKET FOR COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

Market Information

Our common stock has been quoted on the OTC Electronic Bulletin Board of The National Association of Securities Dealers, Inc. under the symbol “NVLT.OB” since June 14, 2005. The following table provides, for the periods indicated, the high and low bid prices for our common stock. These over-the-counter market quotations reflect inter-dealer prices, without retail mark-up, mark-down or commission, and may not represent actual transactions.

Fiscal Year 2007	High	Low
First quarter	$ 1.24	$ 0.85
Second quarter	1.40	0.82
Third quarter	0.90	0.45
Fourth quarter	0.67	0.43

Fiscal Year 2008	High	Low
First Quarter	$ 0.82	$ 0.43
Second Quarter	0.64	0.44
Third Quarter	0.54	0.35
Fourth Quarter	0.49	0.19

Fiscal Year 2009	High	Low
First Quarter	$ 0.60	$ 0.30
Second Quarter	0.90	0.34
Third Quarter (through September 14, 2009)	0.98	0.57

On September 1, 2009, there were 111 holders of record of our common stock. This number does not include stockholders for whom shares were held in a "nominee" or "street" name.

We have not declared or paid any cash dividends on our common stock and do not anticipate declaring or paying any cash dividends in the foreseeable future. We are prohibited from paying any dividends on common stock as long as any shares of our Series E preferred stock are outstanding or as long as there are accumulated but unpaid dividends on our Series C preferred stock. We currently expect to retain future earnings, if any, for the development of our business.

Our transfer agent and registrar is American Stock Transfer and Trust Company, 59 Maiden Lane, New York, NY 10038.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

We are a biopharmaceutical company, established in 1996, commercializing oxidized glutathione-based compounds for the treatment of cancer and hepatitis.

NOV-002, our lead compound, is currently in Phase 3 development for non-small cell lung cancer. NOV-002 is intended for use in combination with chemotherapy to act as a chemopotentiator and chemoprotectant. Three separate Phase 2 trials demonstrated clinical activity and safety of NOV-002 in combination with chemotherapy in non-small cell lung cancer. In May 2006, we finalized a Special Protocol Assessment (SPA) with the FDA for a single pivotal Phase 3 trial in advanced non-small cell lung cancer in combination with first-line chemotherapy, and received Fast Track designation in August 2006. Patient enrollment commenced in November 2006 and targeted enrollment was reached in March 2008. The primary endpoint of the Phase 3 trial is increased median overall survival, to be measured following the occurrence of 725 events (deaths). We anticipate that results for this trial will be available in early 2010.

NOV-002 is also being developed to treat early-stage breast cancer. In June 2007 we commenced enrollment in a U.S. Phase 2 neoadjuvant breast trial, which is ongoing at The University of Miami and The Medical University of South Carolina to evaluate the ability of NOV-002 to enhance the effectiveness of chemotherapy. As presented at the San Antonio Breast Cancer Symposium (December 2008) six pathologic complete responses occurred in the first 15 women (40%) who have completed chemotherapy and undergone surgery, which is much greater than the historical control of less than 20% in HER-2 negative patients. Furthermore, patients experienced decreased hematologic toxicities.

NOV-002 is also being developed to treat chemotherapy-resistant ovarian cancer. In a U.S. Phase 2 chemotherapy-resistant ovarian cancer trial at Massachusetts General Hospital and Dana-Farber Cancer Institute from July 2006 through May 2008, NOV-002 (plus carboplatin) slowed progression of the disease in 60% of evaluable patients (nine out of 15 women). The median progression-free survival was 15.4 weeks, almost double the historical control of eight weeks. These results were presented at the American Society of Clinical Oncology in May 2008.

Based on results to-date, we intend to initiate several Phase 2 trials with NOV-002 in these and possibly other cancer indications. Our ability to initiate these trials, and the timing of such trials, will depend on available funding, principally from collaborative arrangements or the issuance of debt or equity securities.

NOV-205, our second compound, is intended for use as a hepatoprotective agent with immunomodulating and anti-inflammatory properties. A U.S. Phase 1b clinical trial in patients who previously failed treatment with pegylated interferon plus ribavirin was completed in December 2007. Based on favorable safety results of that trial, we plan to initiate a longer duration, proof-of-concept trial in the event we obtain the additional funding necessary for that purpose. However, there can be no assurance that such funding will be available.

Both compounds have completed clinical trials in humans and have been approved for use in Russia, where they were originally developed. We own all intellectual property rights worldwide, excluding the Russian Territory, related to compounds based on oxidized glutathione, including NOV-002 and NOV-205. Our patent portfolio includes six U.S. issued patents, two European issued patents and one Japanese issued patent.

We entered into a collaboration agreement with Mundipharma to develop, manufacture and commercialize NOV-002 in Europe (other than the Russian Territory), most of Asia (other than the Chinese Territory) and Australia. We have a collaboration agreement with Lee's Pharm to develop, manufacture and commercialize NOV-002 and NOV-205 in the Chinese Territory.

Results of Operations

Revenue. Revenue consists of amortization of license fees received in connection with partner agreements and income received from a grant from the U.S. Department of Health and Human Services.

Research and development expense. Research and development expense consists of costs incurred in identifying, developing and testing product candidates, which primarily consist of salaries and related expenses for personnel, fees paid to professional service providers for independent monitoring and analysis of our clinical trials, costs of contract research and manufacturing and costs to secure intellectual property. We are currently developing two proprietary compounds, NOV-002 and NOV-205. To date, most of our research and development costs have been associated with our NOV-002 compound.

General and administrative expense. General and administrative expense consists primarily of salaries and other related costs for personnel in executive, finance and administrative functions. Other costs include facility costs, insurance, costs for public and investor relations, directors' fees and professional fees for legal and accounting services.

Years Ended December 31, 2008 and 2007

Revenue. During the year ended December 31, 2008 we recognized $33,000 in license fees in connection with our collaboration agreement with Lee's Pharm, which commenced in December 2007. Under the terms of this agreement, the Company received an upfront license fee of $500,000 in March 2008 and is entitled to receive up to $1,700,000 in future milestone payments upon the completion of development and marketing milestones by Lee's Pharm. The $500,000 initial payment received is being amortized over the estimated term of the agreement, 15 years. During the year ended December 31, 2008, we also recognized $93,000 in grant revenue related to a grant received from the U.S. Department of Health and Human Services. The related costs are included as a component of research and development expense.

Research and Development. Research and development expense for the year ended December 31, 2008 was $14,527,000, compared to $17,428,000 for the year ended December 31, 2007. The $2,901,000, or 17%, decrease in res earch and development expense was due to a combination of factors. In March 2008, we reached the enrollment target for our Phase 3 clinical trial of NOV-002, and an increasing number of patients completed their treatment regimen through the end of 2008. As a result, certain clinical costs have leveled out or declined. The cost of the chemotherapy drug to be provided to patients at clinical sites in Europe decreased by $1,669,000. Clinical investigator expenses, which are affected by the number of patients that remain on treatment, decreased by $952,000. Drug manufacturing and distribution costs (including storing and shipping chemotherapy drug) decreased by $777,000. Salaries and related costs increased $385,000, principally from the hiring of additional personnel in late 2007 and early 2008 as well as salary increases that were effective at the beginning of 2008. Overhead costs such as travel and postage increased by $130,000.

General and Administrative. General and administrative expense for the year ended December 31, 2008 was $2,190,000, compared to $2,866,000 for the year ended December 31, 2007. The $676,000, or 24%, decrease in general and administrative expense was due principally to a $799,000 decrease in accrued expense for potential liquidated damages associated with registration rights agreements. We had accrued an estimate for such damages in 2007 and those damages were then waived in connection with the sale of Series D preferred stock during 2008 (see Note 6). Stock-based compensation also decreased by $53,000 in the year ended December 31, 2008 compared to the prior year. These decreases were partially offset by a $144,000 increase in professional fees, principally those related to partnering and investor activities and a $32,000 increase in salary, directors' fees and overhead.

Interest Income. Interest income for the year ended December 31, 2008 was $131,000 compared to $730,000 for the same period in 2007. This decrease is a result of lower cash balances as well as a decline in prevailing interest rates.

Preferred Stock Dividends. During the year ended December 31, 2008 we paid cash dividends on shares of Series B and C preferred stock of $740,000 and accrued $1,689,000 of dividends due to shares of Series C and D preferred stock. The accrued dividends were not paid because we did not have legally available funds for the payment of dividends under Delaware corporate law. In February 2009, all outstanding shares of Series D preferred stock and associated rights, including accrued dividends totaling $1,597,000 ($1,396,000 of which had accrued at December 31, 2008) were exchanged for approximately 445.5 shares of Series E preferred stock. During the year ended December 31, 2008 we also recorded deemed dividends to preferred stockholders totaling $4,417,000. This amount represents the value attributed to the reduction in exercise and conversion prices of the warrants and preferred stock issued in May 2007 in connection with the financing that occurred in April 2008, as described in Note 6 to the financial statements.

The deemed dividends, cash dividends and accrued dividends have been included in the calculation of net loss attributable to common stockholders of $22,961,000, or $0.56 per share, for the year ended December 31, 2008. The deemed dividends and cash dividends are excluded from our net loss (from operating activities) of $16,451,000 or $0.40 per share, for the year ended December 31, 2008.

During the year ended December 31, 2007 we paid cash dividends on shares of Series A and C preferred stock of $261,000 and dividends of $563,000 on shares of Series B preferred stock. An additional $337,000 of dividends were declared and accrued but not paid on shares of Series B preferred stock. During the year ended December 31, 2007 we also recorded deemed dividends on preferred stock totaling $9,003,000 (including a payment of $40,000 made upon the exchange of shares of Series A preferred stock for shares of Series C preferred stock). This amount represents the value attributed to the beneficial conversion feature of the Series B preferred stock of $7,824,000 and the fair value of warrants and cash of $1,179,000 transferred to the former holders of Series A preferred stock in connection with the exchange of such shares for shares of Series C preferred stock that were subordinated to the Series B shares. The deemed dividends and cash dividends have been included in the calculation of net loss attributable to common stockholders of $29,721,000, or $0.76 per share, for the year ended December 31, 2007. The deemed dividends and cash dividends are excluded from our net loss (from operating activities) of $19,557,000 or $0.50 per share, for the year ended December 31, 2007.

Six Months Ended June 30, 2009 and 2008

Revenue. During the six months ended June 30, 2009 and 2008 we recognized $17,000 in license fees in connection with our collaboration agreement with Lee's Pharm. During the six months ended June 30, 2009 and 2008, we also recognized $47,000 and $37,000, respectively, in grant revenue related to a grant received from the U.S. Department of Health and Human Services. The related costs are included as a component of research and development expense.

Research and Development. Research and development expense for the six months ended June 30, 2009 was $3,372,000, compared to $10,958,000 for the same period in 2008. The $7,586,000, or 69%, decrease in research an d development expense was due to a combination of factors. In March 2008, we reached the enrollment target for our Phase 3 clinical trial of NOV-002, and an increasing number of patients completed their treatment regimen throughout 2008. As a result, certain clinical costs have leveled off or declined. Contract research services such as those related to clinical research organizations, consultants and central laboratory services decreased by $2,509,000. Clinical investigator expenses, which are affected by the number of patients that remain on treatment, decreased by $2,769,000. The cost of chemotherapy drug to be provided to patients in Europe decreased by $1,754,000 and drug manufacturing and distribution costs (including storing and shipping chemotherapy drug) decreased by $434,000. Salaries and overhead costs decreased by $147,000. These decreases were offset by a $27,000 increase in stock compensation expense.

General and Administrative. General and administrative expense for the six months ended June 30, 2009 was $983,000. We recorded general and administrative expense of $980,000 for the same period in 2008. However, during the six months ended June 30, 2008 we recorded a $404,000 credit to account for a waiver of potential liquidated damages associated with registration rights agreements. We had previously accrued an estimate for such damages in 2007. Without this $404,000 credit, general and administrative expense during the six months ended June 30, 2008 would have been $1,384,000, representing a decrease of $401,000, or 29% during the six months ended June 30, 2009 compared to the same period in the prior year. This decrease is due principally to a $264,000 decrease in professional fees and a $213,000 decrease in salaries and overhead costs which were a result of actions taken to reduce discretionary spending in order to conserve cash. The decrease was partially offset by an increase in stock-based compensation of $76,000.

Interest Income. Interest income for the six months ended June 30, 2009 was $1,000 compared to $101,000 for the same period in 2008. Beginning in March 2009, our cash was on deposit in a non-interest bearing account that is fully insured by the FDIC.

Loss on derivatives. – Effective January 1, 2009, we adopted EITF 07-5. As a result of the adoption of EITF 07-5, we recorded a loss on derivatives of $2,384,000 during the six months ended June 30, 2009. This amount represents the decrease in fair value, during the six months ended June 30, 2009, of outstanding warrants which contain "down-round" anti-dilution provisions whereby the number of shares for which the options are exercisable and/or the exercise price of the warrants is subject to change in the event of certain issuances of stock at prices below the then-effective exercise prices of the warrants.

Preferred Stock Dividends. During the six months ended June 30, 2009, we accrued $1,653,000 in dividends with respect to our Series C, D and E preferred stock. On February 11, 2009, all shares of Series D preferred stock and accrued dividends thereon totaling $1,597,000 (including $202,000 that accrued during the six months ended June 30, 2009) were exchanged for approximately 445.5 shares of Series E preferred stock. The remaining accrued dividends have not been paid. During the six months ended June 30, 2009, we also recorded deemed dividends on preferred stock totaling $714,000. This amount was recorded in connection with the financing that occurred in February 2009 and represents the value attributed to the modification of certain warrants less the net adjustment required to record the newly issued shares of Series E preferred stock at fair value, as described in Note 6 to the financial statements.

During the six months ended June 30, 2008, we paid cash dividends to Series B and Series C preferred stock of $740,000 and accrued $530,000 of dividends due on shares of Series C and D preferred stock. During the six months ended June 30, 2008 we also recorded deemed dividends on preferred stock totaling $4,417,000. This amount represents the value attributed to the reduction in exercise and conversion prices of the warrants and preferred stock issued in May 2007 in connection with the financing that occurred in April 2008.

The deemed dividends, cash dividends and accrued dividends have been included in the calculation of net loss attributable to common stockholders of $9,037,000, or $0.21 per share, for the six months ended June 30, 2009 and $17,128,000, or $0.44 per share, for the six months ended June 30, 2008. The deemed dividends and cash dividends are excluded from our net loss (from operating activities) of $6,670,000 or $0.15 per share, for the six months ended June 30, 2009 and $11,778,000, or $0.30 per share, for the six months ended June 30, 2008.

Liquidity and Capital Resources

We have financed our operations since inception through the sale of securities and the issuance of debt (which was subsequently paid off or converted into equity). As of June 30, 2009, we had $4,493,000 in cash and equivalents.

During the six months ended June 30, 2009, approximately $5,956,000 in cash was used in operations, primarily due to a net loss of $6,670,000 and a net decrease of $2,073,000 in accounts payable and accrued liabilities. Other changes in working capital provided cash of $27,000. The cash impact of the net loss was reduced by a $2,384,000 non-cash loss on derivatives, non-cash stock-based compensation expense of $360,000 and depreciation and amortization of fixed assets totaling $16,000.

During the six months ended June 30, 2009, we purchased $18,000 in fixed assets and received net proceeds of $9,205,000 from the sale of our Series E preferred stock.

On August 25, 2009 we entered into the August 2009 Purchase Agreement with Purdue contemplating the issuance and sale at two or more closings of up to 13,636,364 shares of our common stock and warrants to purchase 4,772,728 shares of our common stock for an aggregate purchase price of $9,000,000. We believe that the addition of all $9,000,000 to our funds at June 30, 2009 would allow us to operate beyond the conclusion of the Phase 3 trial for NOV-002 and into the third quarter of 2010. However, at the initial closing under the August 2009 Purchase Agreement, we were able to sell to Purdue only 5,303,030 shares of common stock and a warrant to purchase 1,856,062 shares of common stock for gross proceeds of $3,500,000, because we did not have enough authorized but unissued (and unreserved) shares of our common stock. Having undertaken the expanded development program for NOV-002 contemplated by the August 2009 Purchase Agreement, the $3,500,000 in proceeds from the initial closing does not provide us with sufficient funds to operate through the anticipated conclusion of the Phase 3 trial in early 2010. In order to be able to obtain the results of the Phase 3 trial, we must raise additional funds by completing the sale of our securities to Purdue under the August 2009 Purchase Agreement or by other means. We have scheduled a special meeting of shareholders, to be held in the fourth quarter of 2009, at which we will seek approval of an increase in the number of authorized shares of common stock.

The completion of the Phase 3 clinical trial for NOV-002 is likely to significantly affect our ability to have adequate funds to finance continued operations. We believe that favorable results of the Phase 3 trial will allow us to raise additional capital to fund strategic objectives, continued operations and clinical development programs beyond 2010, although unfavorable results might preclude such financing and require us to sharply curtail or cease operations. Adverse market conditions may affect our ability to raise funds even with favorable results of the Phase 3 trial.

Critical Accounting Policies

The preparation of financial statements and related disclosures in conformity with accounting principles generally accepted in the United States (GAAP) requires management to make certain estimates, judgments and assumptions that affect the reported amounts of assets and liabilities as of the date of the financial statements, as well as the reported amounts of revenues and expenses during the periods presented. Actual results could differ from those estimates. We review these estimates and assumptions periodically and reflect the effects of revisions in the period that they are determined to be necessary.

We believe that the following accounting policies reflect our more significant judgments and estimates used in the preparation of our financial statements.

Accrued Liabilities. As part of the process of preparing financial statements, we are required to estimate accrued liabilities. This process involves identifying services that have been performed on our behalf, and estimating the level of service performed and the associated cost incurred for such service as of each balance sheet date in our financial statements. Examples of estimated expenses for which we accrue include: contract service fees such as amounts paid to clinical research organizations and investigators in conjunction with clinical trials; fees paid to contract manufacturers in conjunction with the production of clinical materials; and professional service fees, such as for lawyers and accountants. In connection with such service fees, our estimates are most affected by our understanding of the status and timing of services provided relative to the actual levels of services incurred by such service providers. The majority of our service providers invoice us monthly in arrears for services performed. In the event that we do not identify certain costs that have begun to be incurred, or we over- or underestimate the level of services performed or the costs of such services, our reported expenses for such period would be too high or too low. The date on which certain services commence, the level of services performed on or before a given date and the cost of such services are often determined based on subjective judgments. We make these judgments based on the facts and circumstances known to us in accordance with generally accepted accounting principles.

Stock-based Compensation. We account for stock-based compensation in accordance with Statement of Financial Accounting Standards (SFAS) 123R, *Share-Based Payment*, or SFAS 123R. SFAS 123R requires measurement of the cost of employee services received in exchange for an award of equity instruments based on the grant-date fair value of the award. That cost is recognized over the period during which an employee is required to provide service in exchange for the award, the requisite service period (usually the vesting period). We account for transactions in which services are received from non-employees in exchange for equity instruments based on the fair value of such services received or of the equity instruments issued, whichever is more reliably measured, in accordance with SFAS 123 and the Emerging Issues Task Force (EITF) Issue 96-18, *Accounting for Equity Instruments That Are Issued to Other than Employees for Acquiring, or in Conjunction with Selling, Goods or Services*, or EITF 96-18.

Accounting for equity instruments granted or sold by us under SFAS 123R and EITF 96-18 requires fair-value estimates of the equity instrument granted or sold. If our estimates of the fair value of these equity instruments are too high or too low, our expenses may be over- or understated. For equity instruments granted or sold in exchange for the receipt of goods or services, we estimate the fair value of the equity instruments based on consideration of factors that we deem to be relevant at that time.

BUSINESS

Overview

We were incorporated in June 1996 as AVAM International, Inc. In October 1998, Novelos Therapeutics, Inc., a newly incorporated entity, merged into AVAM, and the name of AVAM was changed to Novelos Therapeutics, Inc. In 2005, we completed a two-step reverse merger with Common Horizons, Inc., and its wholly-owned subsidiary Nove Acquisition, Inc. Following the merger, the surviving corporation was Novelos Therapeutics, Inc.

We are a biopharmaceutical company commercializing oxidized glutathione-based compounds for the treatment of cancer and hepatitis. NOV-002, our lead compound, is currently in Phase 3 development for treatment of lung cancer under a Special Protocol Assessment and Fast Track. NOV-002 is also in Phase 2 development for treatment of early-stage breast cancer and chemotherapy-resistant ovarian cancer. In February 2009, Novelos entered into a collaboration agreement with Mundipharma to develop, manufacture and commercialize NOV-002 in Europe (other than the Russian Territory), Asia (other than the Chinese Territory) and Australia. NOV-205, our second compound, is in Phase 1b development for the treatment of chronic hepatitis C in non-responders. We have a collaboration agreement with Lee's Pharm for development, manufacturing and commercialization of both compounds in the Chinese Territory.

NOV-002, our lead compound, acts together with chemotherapy as a chemopotentiator and a chemoprotectant. Three separate Phase 2 trials demonstrated clinical activity and safety of NOV-002 in combination with chemotherapy in non-small cell lung cancer. In May 2006, we finalized a Special Protocol Assessment (SPA) with the U.S. Food and Drug Administration (FDA) for a single pivotal Phase 3 trial in non-small cell lung cancer and obtained Fast Track designation in August 2006. The primary endpoint of this trial is improvement in median overall survival. We commenced patient enrollment in November 2006 and reached our enrollment target of 840 patients in March 2008. We expect that the results of this trial will be available in early 2010.

NOV-002 is also being developed to treat early-stage breast cancer. In June 2007 we commenced enrollment in a U.S. Phase 2 neoadjuvant breast cancer trial, which is ongoing at The University of Miami to evaluate the ability of NOV-002 to enhance the effectiveness of chemotherapy. As presented at the San Antonio Breast Cancer Symposium in December 2008, six pathologic complete responses occurred in the first 15 women (40%) who have completed chemotherapy and undergone surgery, which is much greater than the less than 20% historical expectation in HER-2 negative patients. Furthermore, patients experienced decreased hematalogic toxicities.

NOV-002 is also being developed to treat chemotherapy-resistant ovarian cancer. In a U.S. Phase 2 chemotherapy-resistant ovarian cancer trial conducted at Massachusetts General Hospital and Dana-Farber Cancer Institute from July 2006 through May 2008, NOV-002 (plus carboplatin) slowed progression of the disease in 60% of evaluable patients (9 out of 15 women). The median progression-free survival was 15.4 weeks, almost double the historical control of 8 weeks. These results were presented at the American Society of Clinical Oncology in May 2008.

Based on results to date, we intend to initiate several Phase 2 trials with NOV-002 in these and possibly other cancer indications. Our ability to initiate these trials will depend on available funding, principally from partnering arrangements or the issuance of debt or equity securities.

NOV-205, our second compound, acts as a hepatoprotective agent with immunomodulating and anti-inflammatory properties. Our Investigational New Drug Application for NOV-205 as monotherapy for chronic hepatitis C has been accepted by the FDA. A U.S. Phase 1b clinical trial in patients who previously failed treatment with pegylated interferon plus ribavirin was completed in December 2007. Based on favorable safety results of that trial, we plan to initiate a longer duration, proof-of-concept trial in the event we obtain the additional funding necessary for that purpose.

Both compounds have completed clinical trials in humans and have been approved for use in Russia, where they were originally developed. We own all intellectual property rights worldwide (excluding the Russian Territory), related to compounds based on oxidized glutathione, including NOV-002 and NOV-205.

Our intellectual property portfolio of issued patents includes six U.S. patents, two European patents and one Japanese patent. Overall, we have filed more than thirty patent applications worldwide, with coverage including composition of matter, method of use and manufacturing. We believe that the breadth of our intellectual property will allow us to expand our product pipeline by claiming and commercializing additional compounds that are based on oxidized glutathione.

Business Strategy

Our primary objective is to fully exploit our proprietary scientific and intellectual property portfolio in oxidized glutathione-based therapeutics. NOV-002, currently in Phase 3 development in the U.S. and Europe, has demonstrated an excellent safety and efficacy profile in Russia as a combination treatment with chemotherapy for many different cancers particularly in non-small cell lung cancer, an indication with large and growing unmet medical needs. For example, according to a 1996-1998 Russian non-small cell lung cancer trial, NOV-002 increased the one-year survival rate from 17% to 63% ($p<0.01$) when used in combination with chemotherapy. This result represented an 80% improvement over the U.S. survival rate of 35% that results from the current standard of care. Positive results in a controlled U.S-based Phase 1/2 non-small cell lung cancer study completed in August 2005 were consistent with the positive results obtained in earlier Russian clinical studies.

We intend to obtain a U.S marketing partner for NOV-002 after the non-small cell lung cancer Phase 3 clinical trial results are available (expected early 2010). In February 2009, we entered into a collaboration with Mundipharma under which we granted Mundipharma exclusive rights to develop, manufacture and commercialize NOV-002 in Europe (other than the Russian Territory), Asia (other than the Chinese Territory) and Australia. In December 2007 we entered into a collaboration agreement with Lee's Pharm under which we granted Lee's Pharm exclusive rights to develop, manufacture and commercialize NOV-002 for cancer and NOV-205 for hepatitis in the Chinese Territory.

In legacy Russian clinical studies, NOV-205 has demonstrated the ability to substantially decrease the serum viral load of patients with either hepatitis B or C as well as to restore normal liver function as evidenced by blood biochemical markers. In the U.S., both hepatitis B and C are relatively large markets, but hepatitis B is reasonably well served. Therefore, we intend to concentrate clinical development efforts on chronic hepatitis C, which we believe represents a more direct path to regulatory approval and has the potential to provide patients with an improved therapy regimen compared to those currently available. In December 2007, based on a favorable safety profile, we concluded a U.S. Phase 1b clinical trial for the treatment of chronic hepatitis C in non-responders. We plan to commence a proof-of-concept trial in the event we obtain the additional funding necessary for that purpose. In the event that we are able to complete this trial successfully, we intend to explore licensing opportunities with third parties for the development, manufacture and commercialization of NOV-205.

Technology Overview

Glutathione is a naturally occurring substance present in nearly all cells of the body. The glutathione pathway consists of oxidized glutathione, the primary component of NOV-002 and NOV-205, and associated metabolic enzymes. It is considered within the medical research community to be the most important cellular system for protection against the toxic effects of a variety of cell-damaging molecules. More recently, it has become evident that in addition to this cell-protective role, a key function of the glutathione system is to dynamically regulate cell function by reversibly altering the structure of proteins via a process termed glutathionylation. The resulting activation/inhibition of protein function is analogous to the much-studied role of protein phosphorylation as a cellular regulatory mechanism.

Protein S-glutathionylation attendant to cellular redox changes at the cell surface and intracellularly are known to affect a variety of critical cell functions, including:

- Cell signaling pathways
- Cytoskeletal structure/function
- Protein folding/stability
- Calcium homeostasis
- Energy metabolism
- Redox homeostasis

In addition, changes in the ratio of reduced to oxidized forms of glutathione (GSH/GSSG) can modulate protein phosphorylation in signal pathways, further amplifying the impact of redox changes on cell function. Examples of redox-sensitive gene expression include regulation of gene transcription factors such as NFkB and AP-1, which have been shown to have pivotal roles in the regulation of many genes involved in immune and inflammatory responses, including cytokines and growth factors. The activities of other immune/inflammation regulatory proteins are also sensitive to GSH/GSSG (e.g., mitogen-activated protein kinases, or MAPKs) as are elements of the cytoskeleton (e.g., actin) that control interaction and communication between the cells and their surrounding environment (e.g., extracellular matrix) and cell surface proteins (e.g., protein disulfide isomerase, or PDI), which have been implicated in the modulation of tumor cell invasiveness and metastasis.

Importantly, it has been shown that oxidized glutathione itself is capable of causing protein glutathionylation, leading to changes in cell signaling pathway function. Thus, GSSG, or NOV-002, added to cells can result in a rapid, transient alteration of cell surface or intracellular redox state by shifting the equilibrium towards the formation of mixed disulfides with protein thiols. This is accompanied by glutathionylation of cellular proteins and alterations in phosphorylation of signaling proteins (e.g., MAPKs, AKT, JAK2, STAT5).

Findings with NOV-002 and NOV-205 in animals and humans are consistent with a variety of known effects of modulating cellular redox status (e.g., blood precursor cell proliferation (hematopoiesis)), modulation of cytokine and growth factor production (including those known to control production of blood cells), immune system modulation, and cytoskeletal alterations that may impact the migration and invasiveness of tumor cells. Identification of the precise molecular targets of the GSSG component of NOV-002 and NOV-205, which would account for their clinical effects, is the subject of ongoing study.

Products in Development

Our current developmental pipeline of drugs is based on oxidized glutathione, a natural metabolite that has shown excellent safety as well as clinical efficacy in numerous cancers, hepatitis B and C, HIV, psoriasis, tuberculosis and certain other diseases. The lead products are believed to act via modulation of critical regulatory molecules that mediate immune function, tumor progression (in combination with chemotherapy), and drug detoxification.

NOV-002

NOV-002 is an injectable, small-molecule formulation of a natural metabolite that is currently being developed for use in combination with chemotherapy for treatment of lung, breast and ovarian cancers.

NOV-002 for Non-Small Cell Lung Cancer

In the U.S., NOV-002 is in Phase 3 development for treatment of non-small cell lung cancer under a Special Protocol Assessment with Fast Track designation. NOV-002 is approved in Russia for general medicinal usage as an immunostimulant in combination with chemotherapy and antimicrobial therapy, and specifically for indications such as tuberculosis and psoriasis. Efficacy and excellent safety have been demonstrated in trials with 390 patients in Russia across numerous types of cancer including non-small cell lung cancer, breast cancer, ovarian cancer, colorectal cancer and pancreatic cancer. Since the Russian Ministry of Health approval in 1998, it is estimated that NOV-002 has been administered to over 10,000 patients.

According to the American Cancer Society, about 1.44 million U.S. men and women were expected to be diagnosed with cancer in 2008. Over 566,000 U.S. cancer patients were expected to die in 2008, which makes cancer the second leading cause of death in the U.S., exceeded only by deaths related to heart disease. Lung cancer is the leading cause of cancer death in the U.S. According to the American Cancer Society, approximately 215,000 people were expected to be diagnosed with lung cancer in 2008 in the U.S., with approximately 162,000 deaths. According to the American Cancer Society, approximately 1,500,000 new cases of lung cancer were expected worldwide in 2007 and approximately 1,350,000 deaths were projected from lung cancer in 2007. According to a Decision Resources report dated July 2009, the pharmaceutical market for treating non-small cell lung cancer was approximately $3.5 billion in the U.S., France, Germany, Italy, Spain, the United Kingdom and Japan, and is expected to grow to greater than $10 billion by 2018. Non-small cell lung cancer accounts for more than 80% of lung cancer. Only about 15% of non-small cell lung cancer patients are diagnosed early enough to be eligible for surgery.

Platinum-based chemotherapy regimens are standard first-line treatment for advanced non-small cell lung cancer patients, since these patients are not eligible for surgery. Carboplatin and paclitaxel are the most common combination therapy in the U.S., while cisplatin and gemcitabine are more common in Europe. During treatment, patients continue to be subject to serious adverse effects. According to the published results of 12 Phase 3 clinical trials conducted as recently as 2008, the one-year survival rate for patients receiving paclitaxel and carboplatin first-line therapy is typically only about 40%, weighted average median survival is approximately 9.7 months and the objective tumor response (defined as greater than 30% tumor shrinkage) rate is about 27%. Overall, fewer than 5% of advanced non-small cell lung cancer patients survive five years. Docetaxel is approved for use as second-line treatment of non-small cell lung cancer. New dosing regimens with existing cytotoxic drugs are likely to provide only incremental improvements in efficacy and/or safety, and are expensive. Similarly, targeted biologic therapies, such as Astra Zeneca's IRESSA®, OSI's TARCEVA®, Genentech's AVASTIN® and ImClone's ERBITUX®, may offer some benefit for certain patient subpopulations, but overall efficacy has remained low. Moreover, there are significant safety concerns and the costs to manufacture are very high. Thus, there is an unmet need for efficacious, and cost-effective, treatments for non-small cell lung cancer, particularly for late-stage patients.

NOV-002 can be distinguished from other drugs for non-small cell lung cancer on the market or in development because, based on available data, NOV-002 possesses the key attributes of safety, potentiation of chemotherapy (increased survival rates and better anti-tumor effects) and improved recovery from chemotherapy toxicity. In a controlled randomized U.S. Phase 1/2 clinical trial, advanced non-small cell lung cancer patients treated with NOV-002 in combination with paclitaxel and carboplatin demonstrated improved objective tumor response (69% of the patients treated with NOV-002 plus chemotherapy had 50% or greater tumor shrinkage versus only 33% of the patients treated with chemotherapy alone, $p<0.05$) and higher tolerance of chemotherapy versus the control group ($p<0.01$). In a controlled randomized Russian trial, when used in combination with cisplatin-based chemotherapy, NOV-002 increased the one-year survival of advanced non-small cell lung cancer patients from 17% to 63%, $p<0.01$ (versus 35% typical in the U.S.). On the basis of U.S. and Russian data, we believe that NOV-002 may be used in combination with first-line chemotherapy treatments and may be complementary to second-line and recently emerging third-line products. Furthermore, we believe that NOV-002 may have utility in all stages of non-small cell lung cancer and in other solid tumor types as well.

The Russian non-clinical and clinical data set (which includes clinical safety and efficacy data, extensive animal toxicology studies and a comprehensive chemistry and manufacturing package) was accepted by the FDA as the basis of an Investigational New Drug (IND) application, leading to a Novelos-sponsored Phase 1/2 clinical trial in advanced non-small cell lung cancer in late 1999. The aim of the Phase 1/2 clinical trial was to demonstrate safety, detect trends towards efficacy, compare routes of administration and support initiation of a Phase 3 trial. We finalized a Special Protocol Assessment with the FDA in May 2006 for a single pivotal Phase 3 trial in advanced non-small cell lung cancer in combination with first-line chemotherapy, and obtained Fast Track designation in August 2006. The primary endpoint of this trial is improvement in median overall survival, and we reached our enrollment target of 840 patients in March 2008. We expect the pivotal Phase 3 trial to conclude in early 2010.

In the U.S. Phase 1/2 non-small cell lung cancer clinical trial of NOV-002, 44 chemotherapy-naive late-stage lung cancer patients (i.e. patients who had not received prior chemotherapy) were randomized to one of three groups for six months of treatment as follows:

- Group A: NOV-002, administered intravenously and intramuscularly, in combination with cytotoxic chemotherapy (carboplatin with paclitaxel);
- Group B: NOV-002, administered intravenously and subcutaneously, in combination with cytotoxic chemotherapy; and
- Group C: Cytotoxic chemotherapy alone was administered to this control group.

Based on the study protocol, the intent-to-treat analysis of the best overall objective tumor response (i.e., complete or partial tumor shrinkage) showed the following:

- Six out of 13 (46%) patients in Group A demonstrated objective tumor response;
- 11 out of 16 (69%) patients in Group B demonstrated objective tumor response; and
- five out of 15 (33%) in Group C, the control group, demonstrated objective tumor response.

The difference in objective tumor response between Groups B and Group C (69% versus 33%) was statistically significant ($p=0.044$).

Further, NOV-002-treated patients (i.e., Group A and Group B) better tolerated cytotoxic chemotherapy as evidenced by their ability to receive more cycles of chemotherapy compared to the control group (Group C). 100% of patients in Group B and 85% of patients in Group A were able to complete four cycles of chemotherapy, while only 50% of control group patients in Group C were able to do so. The differences between treated versus control groups was statistically significant ($p=0.004$).

In St. Petersburg, Russia, a multi-center, randomized, open-label study was conducted during 1996-1998 to evaluate the safety and efficacy of NOV-002 in patients with advanced non-small cell lung cancer. In this study, patients receiving NOV-002 in combination with chemotherapy had a significantly increased one-year survival rate over the control group (63% treated group vs. 17% control, $p<0.01$). In addition, ability to conduct daily activities, quality of life, tolerance to chemotherapy, hematologic parameters and kidney/liver toxicity markers appeared to improve or normalize in patients receiving NOV-002 in comparison to those in the control group. As in the U.S. Phase 1/2 trial, patients receiving NOV-002 were able to receive significantly more cycles of chemotherapy ($p<0.01$). Importantly, no NOV-002-associated adverse effects were observed. In addition, in an independent study in advanced non-small cell lung cancer study of similar design in Moscow in 2000, 52% of the patients treated with NOV-002 survived for at least one year.

NOV-002 for Neoadjuvant Treatment of Breast Cancer

We are also developing NOV-002 to treat early-stage breast cancer in combination with chemotherapy. These patients are often treated with chemotherapy to minimize surgical intervention. A U.S. Phase 2 trial to evaluate the ability of NOV-002 to enhance the effectiveness of such chemotherapy while diminishing side-effects commenced in June 2007 at the Medical University of South Carolina (MUSC) Hollings Cancer Center. The trial is currently ongoing at the Braman Family Breast Cancer Institute at the Sylvester Comprehensive Care Center University of Miami Miller School of Medicine (Sylvester). Alberto Montero, MD, Assistant Professor of Medicine at Sylvester, is the Principal Investigator.

Breast cancer remains a serious public health concern throughout the world. According to the American Cancer Society, approximately 192,000 women in the US were expected to be diagnosed with breast cancer in 2009, and approximately 41,000 were expected to die from the disease. Neoadjuvant or preoperative systemic chemotherapy is commonly employed in patients with locally advanced stage III breast cancer and in some patients with stage II tumors. Administration of neoadjuvant chemotherapy reduces tumor size, thus enabling breast conservation surgery in patients who otherwise would require a mastectomy. Furthermore, several studies have shown that pathologic complete response (pCR) following neoadjuvant chemotherapy is associated with a significantly higher probability of long-term survival. However, only a minority of patients with HER-2 negative breast cancer achieve a pCR with standard chemotherapy.

The primary objective of this open-label, single-arm trial is to determine if preoperative administration of NOV-002 in combination with eight cycles of chemotherapy (four of doxorubicin and cyclophosphamide followed by four of docetaxel) results in an appreciably higher pCR rate than expected with this same chemotherapeutic regimen alone. According to the Simon two-stage trial design, if four or more pCRs were observed in the first stage of the trial (19 women), enrollment would continue into the second stage, for a total of 46 women.

As of December 2008, 19 women have been enrolled, with six pCRs already demonstrated in the first 15 women (40%) who have completed chemotherapy and undergone surgery, which is much greater than the less than 20% historical expectation in HER-2 negative patients. Furthermore, NOV-002 was associated with decreased hematologic toxicities and with decreased use of growth factors (Ethropoiesis Stimulating Agents, which are potentially harmful) relative to historical experience. Detailed results were presented at the San Antonio Breast Cancer Symposium in December 2008. Having achieved an interim efficacy target even earlier than expected, the trial has moved into the second stage. Full enrollment of 46 patients is expected by the end of 2009, with trial conclusion anticipated in late 2010.

NOV-002 for Chemotherapy (Platinum)-Resistant Ovarian Cancer

According to the American Cancer Society, approximately 22,000 U.S. women were expected to be diagnosed with ovarian cancer in 2009 and 15,000 women are expected to die from it. According to a Rodman and Renshaw report dated December 2006, the pharmaceutical market for treating ovarian cancer was estimated to be $300 million per year. There is a lack of effective treatment, particularly in the case of patients who are chemotherapy refractory (those who do not respond to chemotherapy) or resistant (those who relapse shortly after receiving chemotherapy).

First-line chemotherapy treatment is the same in ovarian cancer as in non-small cell lung cancer. Standard first-line treatment for ovarian cancer patients is carboplatin and paclitaxel chemotherapy in combination. Doxorubicin and topotecan alternate as second- and third-line chemotherapy treatments.

Refractory/resistant ovarian cancer patients have a very poor prognosis because they are faced with inadequate therapeutic options. According to a Lehman Brothers report dated September 2002, response rates from second-line treatments, such as doxorubicin and topotecan, are typically less than 12%. Once a woman's ovarian cancer is defined as platinum resistant, the chance of having a partial or complete response to further platinum therapy is typically less than 10%, according to an article by A. Berkenblit in the June 2005 issue of the *Journal of Reproductive Medicine.*

In Russia in 1998, twenty ovarian cancer case studies were analyzed. All of these patients were treated for three cycles with platinum-based chemotherapy but continued with progressive disease according to qualitative assessments and Cancer Antigen 125. The patients were then treated with NOV-002 for three to four weeks, followed by three more cycles of the same platinum-based chemotherapy (to which they previously failed to respond to) in conjunction with NOV-002. The observed 40% objective tumor response rate across these case studies is much higher than would ordinarily be expected in patients who had previously been non-responsive to platinum-based chemotherapy. Objective response is defined as partial (50% or greater tumor reduction) or complete response; it does not include stabilization of the disease or small reductions in tumor size. An additional 40% of patients in the Russian analysis displayed stable disease (i.e., no tumor growth).

In a U.S. Phase 2 chemotherapy-resistant ovarian cancer trial at Massachusetts General Hospital and Dana-Farber Cancer Institute from July 2006 through May 2008, NOV-002 (plus carboplatin) slowed progression of the disease in 60% of evaluable patients (9 out of 15 women). The median progression-free survival was 15.4 weeks, almost double the historical control of 8 weeks. These results were presented at the American Society of Clinical Oncology in May 2008. We plan to initiate a second Phase 2 trial in chemotherapy-resistant ovarian cancer patients in the event we obtain the additional funding necessary for that purpose. However, there can be no assurance that such funding will be available.

NOV-205

NOV-205 for Chronic Hepatitis C

NOV-205 is a unique, injectable, small-molecule proprietary formulation of oxidized glutathione and inosine. We are developing NOV-205 in the U.S. for the treatment of chronic hepatitis C.

According to the World Health Organization, chronic hepatitis C affected 170 million people worldwide in 2003, and up to four million people are newly infected each year. Chronic infection can progress to cirrhosis and end-stage liver disease. While there are varying estimates about the size of the global market for hepatitis C drugs, a September 2006 publication of *Nature Reviews Drug Discover*y estimated the global market to be in excess of $3 billion per year. The Centers for Disease Control and Prevention (CDC), estimated that in 2003, 3.9 million persons in the U.S. were infected with hepatitis C, and 2.7 million persons in the U.S. had chronic infection. The CDC further estimated that there are approximately 30,000 new hepatitis C infections and 8,000-10,000 hepatitis C-related deaths each year in the U.S.

NOV-205 was approved in Russia by the Ministry of Health in 2001 as monotherapy for the treatment of hepatitis B and C. The Russian approval of NOV-205 was supported by a Russian New Drug Application, which included studies in hepatitis B and C totaling 90 treated patients. An additional 88 patients had been treated in previous anecdotal studies. After relatively short treatment periods (one to two months), the drug was shown to eliminate the serum viral load in hepatitis B patients and to decrease viral load below detection in 40-60% of hepatitis C subjects. Importantly, these reductions were largely maintained during one to three months of post-treatment follow-up. In addition, NOV-205 was shown to improve liver function as evidenced by significant reductions in serum biochemical markers of liver toxicity. No NOV-205-related adverse events were reported among any of the 178 patients treated in these studies.

The therapeutic profile of NOV-205 contrasts sharply with those of currently approved therapies in the U.S., which have limited effectiveness, are expensive and have severe side effects, particularly in the case of chronic hepatitis C. For example, pegylated interferon and ribavirin combinations have limitations of safety and tolerability (40-65% of treated patients experience fatigue, depression, fever, headaches, muscle pain or anemia). Furthermore, these drugs are effective in only a fraction of the patient population and are very expensive. Other new products for hepatitis C, beyond variations of ribavirin and interferon (e.g., HCV protease inhibitors), are at early stages of development and could potentially be used in combination with NOV-205.

On the basis of the clinical and pre-clinical data package underlying Russian approval of NOV-205, in combination with U.S. chemistry and manufacturing information, we filed an Investigational New Drug Application with the FDA for NOV-205 as monotherapy in chronic hepatitis C in March 2006. The FDA accepted our Investigational New Drug Application in April 2006, and a U.S. Phase 1b trial in patients who previously failed treatment with pegylated interferon plus ribavirin commenced in September 2006 and was completed in December 2007. Based on the favorable safety data obtained from this trial, we plan to initiate a longer duration proof-of-concept trial in the event we obtain the additional funding necessary for that purpose.

Non-clinical Research Program

Our non-clinical research program is aimed at gaining a better understanding of the mechanism(s) of action of our oxidized glutathione-based drug products and adding to the Russian non-clinical data that will be required for ultimate FDA filing of our products. This research is being performed via a network of academic and commercial (i.e., contract research organizations) laboratories.

We are engaged in a funded research collaboration with the laboratory of Kenneth Tew, Ph.D., D.Sc., Chairman of the Department of Cell and Molecular Pharmacology and Experimental Therapeutics at The Medical University of South Carolina. Dr. Tew is also chairman of our Scientific Advisory Board and a stockholder. The general objectives of this research program are to add to the understanding of NOV-002 and NOV-205 as drug products, particularly with respect to their molecular and cellular mechanisms of action and to facilitate the design and execution of clinical studies and the interactions with the FDA and the scientific community. Funded research collaborations have been conducted or are underway at other academic/scientific institutions including Harvard/Massachusetts General Hospital, the Wistar Institute, the University of Massachusetts Medical Center and the University of Miami to further elaborate *in vitro* and *in vivo* mechanisms of drug action that may underlie the clinical therapeutic profiles of NOV-002 and NOV-205.

Manufacturing

Our proprietary manufacturing process is well-established, simple, inexpensive and scalable. We have used U.S. and Canadian contract manufacturing facilities that are registered with the FDA to support our U.S. development efforts. We do not plan to build manufacturing capability over the next several years. Rather, we plan to continue to employ contract manufacturers.

The active pharmaceutical ingredient of NOV-002 is manufactured in the U.S. in compliance with current Good Manufacturing Practices in a single, synthetic step and then filled, finished and packaged at Hyaluron (Burlington, MA) as a sterile, filtered, aseptically processed solution for intravenous and subcutaneous use. NOV-002 clinical trial material (vials and syringes containing the active pharmaceutical ingredient and solution) has successfully completed 36-month stability studies.

We are not currently manufacturing NOV-205. In the past, NOV-205's active pharmaceutical ingredient was manufactured in compliance with current Good Manufacturing Practices in a single, synthetic step at Synthetech, Inc. and then lyophilized into a powder at Oregon Freeze Dry, Inc. It was then filled, finished and packaged at Dalton Pharma Services Inc. (Toronto, Canada).

Intellectual Property

We own all intellectual property rights worldwide (excluding the Russian Territory) related to both clinical-stage compounds (i.e., NOV-002 and NOV-205) and other pre-clinical compounds based on oxidized glutathione. We have six issued patents in the U.S. We also have two issued patents in Europe and one in Japan. Overall, we have filed more than 30 patent applications worldwide.

Novelos has entered into a collaboration agreement granting Mundipharma exclusive rights to develop, manufacture and commercialize NOV-002 in Europe (other than the Russian Territory), Asia (other than the Chinese Territory) and Australia. NOV-205, our second compound, is in Phase 1b development for the treatment of chronic hepatitis C in non-responders. Both compounds have been licensed to Lee's Pharm for exclusive development, manufacture and commercialization in the Chinese Territory.

Under the August 2009 Purchase Agreement, we committed to negotiate exclusively with Purdue for the license or other acquisition of NOV-002 Rights in the United States until Purdue receives certain information related to the results of the Phase 3 clinical trial. In addition, we granted Purdue a right of first refusal with respect to bona fide offers received from third parties to obtain NOV-002 Rights in the United States. The right of first refusal terminates only upon certain business combinations or if Purdue fails to purchase our securities at a subsequent closing under the Purchase Agreement where we have satisified all conditions precedent to Purdue's obligation to close.

We believe that our breadth of intellectual property will allow us to expand our pipeline by claiming and commercializing additional compounds that are based on oxidized glutathione.

Employees

As of September 1, 2009 we had eight full-time employees. We believe our relationships with our employees are good.

Regulation

The manufacturing and marketing of NOV-002 and NOV-205 and our related research and development activities are subject to regulation for safety, efficacy and quality by numerous governmental authorities in the United States and other countries. We anticipate that these regulations will apply separately to each drug and compound in our drug therapy technology. We believe that complying with these regulations will involve a considerable level of time, expense and uncertainty.

In the United States, drugs are subject to rigorous federal regulation and, to a lesser extent, state regulation. The Federal Food, Drug and Cosmetic Act and other federal and state statutes and regulations govern, among other things, the testing, manufacture, safety, efficacy, labeling, storage, recordkeeping, approval, advertising and promotion of our drugs. Drug development and approval within this regulatory framework is difficult to predict and will take a number of years and involve the expenditure of substantial resources.

The steps required before a pharmaceutical agent may be marketed in the United States include:

- Pre-clinical laboratory tests, *in vivo* pre-clinical studies, and formulation studies;
- The submission to the FDA of an Investigational New Drug Application for human clinical testing, which must become effective before human clinical trials can commence;
- Adequate and well controlled human clinical trials to establish the safety and efficacy of the product;
- The submission of a New Drug Application or Biologic Drug License Application to the FDA; and

- FDA approval of the New Drug Application or Biologic Drug License Application prior to any commercial sale or shipment of the product.

In addition to obtaining FDA approval for each product, each product manufacturing facility must be registered with and approved by the FDA. Manufacturing facilities are subject to biennial inspections by the FDA and must comply with the FDA's Good Manufacturing Practices for products, drugs and devices.

Whether or not FDA approval has been obtained, approval of a product by regulatory authorities in foreign countries must be obtained prior to the commencement of commercial sales of the drug in such countries. The requirements governing the conduct of clinical trials and drug approvals vary widely from country to country, and the time required for approval may be longer or shorter than that required for FDA approval. Although there are some procedures for unified filings for certain European countries, in general each country has its own procedures and requirements.

LITIGATION

We are not a party to any legal proceedings the outcome of which, in the opinion of our management, would have a material adverse effect on our business, financial condition, or results of operations.

PROPERTIES

We lease our executive office in Newton, Massachusetts. Our office consists of approximately 2,200 square feet and is rented for approximately $5,300 per month. This lease expires in August 2010. We believe that our present facilities are adequate to meet our current needs. If new or additional space is required, we believe that adequate facilities are available at competitive prices.

MANAGEMENT

Our current directors and executive officers are:

Name	Age	Position
Stephen A. Hill, B.M. B.Ch., M.A., F.R.C.S.	51	Chairman of the Board
Harry S. Palmin	39	President, Chief Executive Officer and Director
Elias B. Nyberg, DVM, BVSc, MACVS, MRCVS, MBA	55	Vice President of Regulatory, Quality and Compliance
Christopher J. Pazoles, Ph.D.	59	Vice President of Research and Development
Joanne M. Protano	40	Vice President, Chief Financial Officer and Treasurer
Kristin C. Schuhwerk	38	Vice President of Clinical Development and Operations
Michael J. Doyle (1) (2) (3)	51	Director
Sim Fass, Ph.D. (1) (2) (3)	67	Director
James S. Manuso, Ph.D.	60	Director
David B. McWilliams (2) (3)	66	Director
Howard M. Schneider (1) (3)	65	Director

(1) Member of the audit committee.
(2) Member of the compensation committee.
(3) Member of the nominating and corporate governance committee.

Our executive officers are appointed by, and serve at the discretion of, our board of directors.

Stephen A. Hill. Dr. Hill was elected our chairman of the board of directors in September 2007. Dr. Hill has served as the President and Chief Executive Officer of Solvay Pharmaceuticals, Inc. since April 2008. Prior to joining Solvay, Dr. Hill had served as ArQule's President and Chief Executive Officer since April 1999. Prior to his tenure at ArQule, Dr. Hill was the Head of Global Drug Development at F. Hoffmann-La Roche Ltd. from 1997 to 1999. Dr. Hill joined Roche in 1989 as Medical Adviser to Roche Products in the United Kingdom. He held several senior positions at Roche, including Medical Director where he was responsible for clinical trials of compounds across a broad range of therapeutic areas, including CNS, HIV, cardiovascular, metabolic and oncology products. Subsequently, he served as Head of International Drug Regulatory Affairs at Roche headquarters in Basel, Switzerland, where he led the regulatory submissions for seven major new chemical entities. Dr. Hill also was a member of Roche's Portfolio Management, Research, Development and Pharmaceutical Division Executive Boards. Prior to Roche, Dr. Hill served seven years with the National Health Service in the United Kingdom in General and Orthopedic Surgery. Dr. Hill is a Fellow of the Royal College of Surgeons of England and holds his scientific and medical degrees from St. Catherine's College at Oxford University.

Harry S. Palmin. Mr. Palmin has served as our president and a director since 1998 and our chief executive officer since January 2005. From 1998 to September 2005, he served as our acting chief financial officer. From 1996 to 1998, he was a vice president at Lehman Brothers and from 1993 to 1996, he was an associate at Morgan Stanley & Co. Mr. Palmin earned a B.A. in economics and business and a M.A. in international economics and finance from the International Business School at Brandeis University. He has also studied at the London School of Economics and the Copenhagen Business School.

Elias B. Nyberg. Dr. Nyberg has served as our vice president of regulatory, quality and compliance since May 2008. From September 2006 to April 2008, Dr. Nyberg was a regulatory advisor to several companies including Labopharm and Novartis Phramaceuticals, Inc. From February 2004 to September 2006 he was the Vice President Regulatory Affairs for CombinatoRx. From April 2001 to January 2004 he served as the Senior Director International Regulatory Affairs for Biogen. Dr. Nyberg has also held senior regulatory positions with INC Research/PRA International Inc., Astra Arcus AB, Pfizer Pharmaceuticals and Ciba-Geigy. Prior to his tenure in the biotechnology industry, Dr. Nyberg practiced as a veterinarian for 12 years, specializing in exotic animals. He undertook his primary veterinary training in the Philippines followed by post-doctorate work in South Africa and Australia. Dr. Nyberg earned an MBA in England and his specialty (diplomate) boards in Exotic Animal (Avian) Medicine (MACVS) in Australia. He is also a member of the Royal College of Veterinary Surgeons (MRCVS) in London.

Christopher J. Pazoles. Dr. Pazoles has served as our vice president of research and development since July 2005. From May 2004 to June 2005, he held a senior research and development position at the Abbott Bioresearch Center, a division of Abbott Laboratories. From October 2002 to January 2004, he served as chief operating officer and head of research and development at ALS Therapy Development Foundation. From 1994 to October 2002, Dr. Pazoles served as vice president of research for Phytera, Inc. From 1981 to 1994, he served as a researcher and senior manager with Pfizer. Dr. Pazoles holds a Ph.D. in microbiology from the University of Notre Dame.

Joanne M. Protano. Ms. Protano was appointed our vice president, chief financial and accounting officer, and treasurer in December 2007. She previously held the position of Senior Director of Finance and Controller of the Company from June 2006 to December 2007. From 1996 to 2006, she held various management and senior management positions with Ascential Software, Inc. and predecessor companies including Assistant Controller, Reporting for Ascential Software, Vice President and Chief Financial Officer for the Ascential Software Division of Informix Software, Inc. and Corporate Controller of Ardent Software, Inc. Prior to her tenure in the technology industry, from 1990 to 1996 she was employed by Deloitte and Touche LLP as an audit manager, serving technology and healthcare clients. Ms. Protano received a B.S. in business administration from Bryant College.

Kristin C. Schuhwerk. Ms. Schuhwerk was appointed our vice president of clinical development and operations in December 2007. She previously served as our Director/Senior Director of Operations from July 2005 to December 2007. Prior to her employment at Novelos, she worked in the biopharmaceutical industry managing and overseeing business operations for multiple global Phase 2 and 3 clinical studies. From 2002 to 2005 she held the positions of Senior Project Manager and Director of Planning and Business Operations in Clinical Development at Antigenics, Inc., a cancer biotechnology company. From 1993 to 2002, she held research, project management and management positions at Boston University Medical Center, Parexel International, AstraZeneca and Brigham & Women’s Hospital. Ms. Schuhwerk earned a B.S. degree in Chemistry from the University of New Hampshire.

Michael J. Doyle. Mr. Doyle has served as one of our directors since October 2005. Since October 2007 he has served as the chief executive officer of Medsphere Systems Corporation. From April 2006 to June 2007, he served as chief executive officer of Advantedge Healthcare Solutions. From January 2005 to March 2006, he served as chief executive officer of Windward Advisors. From March 2000 to December 2004, Mr. Doyle served as chairman and chief executive officer of Salesnet. From 1989 to 1997, he served as chairman and chief executive officer of Standish Care/Carematrix, a company he founded. He received a B.S. in biology from Tufts University and a M.B.A. with a concentration in finance and health care from the University of Chicago.

Sim Fass. Dr. Fass has served as one of our directors since February 2005. Dr. Fass, now retired, served as chief executive officer and chairman of Savient Pharmaceuticals from 1997 to 2004, its president and chief executive officer from 1984 to 1997, and its chief operating officer from 1983 to 1984. From 1980 to 1983, Dr. Fass served as vice president and general manager of Wampole Laboratories. From 1969 to 1980, he held a number of marketing, sales and senior management positions at Pfizer, Inc in both pharmaceuticals and diagnostics. He received a B.S. in biology and chemistry from Yeshiva College and a doctoral degree in developmental biology/biochemistry from the Massachusetts Institute of Technology.

James S. Manuso. Dr. Manuso was elected as one of our directors in August 2007. Since January 2005, Dr. Manuso has served as Chairman, President and Chief Executive Officer of SuperGen, Inc. and has served as a director of SuperGen since February 2001. Dr. Manuso is co-founder and former president and chief executive officer of Galenica Pharmaceuticals, Inc. Dr. Manuso co-founded and was general partner of PrimeTech Partners, a biotechnology venture management partnership, from 1998 to 2002, and Managing General Partner of The Channel Group LLC, an international life sciences corporate advisory firm. He was also president of Manuso, Alexander & Associates, Inc., management consultants and financial advisors to pharmaceutical and biotechnology companies. Dr. Manuso was a vice president and Director of Health Care Planning and Development for The Equitable Companies (now Group Axa), where he also served as Acting Medical Director. He currently serves on the board of privately-held KineMed, Inc. and Merrion Pharmaceuticals Ltd. (Dublin, Ireland). Dr. Manuso earned a B.A. in economics and chemistry from New York University, a Ph.D. in experimental psychophysiology from the Graduate Faculty of The New School University, a certificate in health systems management from Harvard Business School, and an executive M.B.A. from Columbia Business School.

David B. McWilliams. Mr. McWilliams has served as one of our directors since March 2004. From February 2004 to December 2004, Mr. McWilliams performed chief executive officer services for us. Mr. McWilliams is currently retired. From August 2004 to July 2008, Mr. McWilliams served as chief executive officer of Opexa Therapeutics, Inc. (formerly PharmaFrontiers Corp.). From 1992 to March 2002, he served as president, chief executive officer and a director of Encysive Pharmaceuticals (formerly Texas Biotech). From 1989 to 1992, Mr. McWilliams served as president, chief executive officer and director of Zonagen. From 1984 to 1988, he served as president and chief executive officer of Kallestad Diagnostics. From 1980 to 1984, he served as president of Harleco Diagnostics Division. From 1972 to 1980, he was an executive at Abbott Laboratories, rising to general manager for South Africa. From 1969 to 1972, he was a management consultant at McKinsey & Co. Mr. McWilliams is also a director of ApoCell Biosciences, Houston Technology Center and Opexa Therapeutics. Mr. McWilliams received a M.B.A. in finance from the University of Chicago and a B.A. in chemistry from Washington and Jefferson College.

Howard M. Schneider. Mr. Schneider has served as one of our directors since February 2005. Mr. Schneider is currently retired. From January to December 2003, he served as chief executive officer of Metrosoft, Inc., and had been an advisor to such company from July to December 2002. From May 2000 to May 2001, he served as president of Wofex Brokerage, Inc. and from 1965 to 1999, he served as an executive at Bankers Trust Company holding a variety of positions in the commercial banking and investment banking businesses. Mr. Schneider received a B.A. in economics from Harvard College and a M.B.A. from New York University.

Compensation of Directors and Executive Officers

Executive Officer Compensation

Summary Compensation: The following table sets forth certain information about the compensation we paid or accrued with respect to our principal executive officer and our two most highly compensated executive officers (other than our chief executive officer) who served as executive officers during the year ended December 31, 2008 and whose annual compensation exceeded $100,000 for that year.

Other annual compensation in the form of perquisites and other personal benefits has been omitted as the aggregate amount of those perquisites and other personal benefits was less than $10,000 for each person listed.

Summary Compensation Table

Name and Principal Position	Year	Salary ($)	Bonus ($) (3)	Option Awards ($) (4)	All other compensation ($)	Total ($)
Harry S. Palmin (1)	2008	$ 270,000	$ 40,500	$ 110,560	$ 0	$ 421,060
President, Chief Executive Officer	2007	245,000	75,000	59,660	0	379,660
Christopher J. Pazoles (1)	2008	$ 235,000	$ 35,250	$ 55,280	$ 0	$ 325,530
Vice President of Research and Development	2007	216,720	60,000	37,288	0	314,008
Kristin C. Schuhwerk (1) (2)	2008	$ 200,000	$ 30,000	$ 55,280	$ 0	$ 285,280
Vice President of Clinical Development and Operations	2007	169,904	50,000	37,288	0	257,192

(1) There has been no increase to executive base salaries for 2009.
(2) Ms. Schuhwerk was appointed as an officer in December 2007. The compensation listed for 2007 was paid to her in her capacity as senior director of operations.
(3) Bonus amounts for 2008 were paid in 2009. Bonus amounts for 2007 were paid in 2008.
(4) The fair value of each stock award was estimated on the grant date using the Black-Scholes option-pricing model.

Employment Agreements

On January 31, 2006, we entered into an employment agreement with Harry Palmin effective January 1, 2006, whereby he agreed to serve as our president and chief executive officer for an initial term of two years at an annual salary of $225,000. The agreement is automatically renewed for successive one-year terms unless notice of termination is provided by either party at least 90 days prior to the end of such term. The agreement was renewed for an additional one-year term on January 1, 2009 in accordance with its terms. On December 17, 2007, the Board of Directors approved an increase in Mr. Palmin's annual salary to $270,000 effective January 1, 2008. He is eligible to receive an annual cash bonus at the discretion of the compensation committee and he is entitled to participate in our employee fringe benefit plans or programs generally available to our senior executives. The agreement provides that in the event that we terminate Mr. Palmin without cause or he resigns for good reason (as defined below), we will (i) pay Mr. Palmin his pro rata share of the average of his annual bonus paid during the two fiscal years preceding his termination; (ii) pay Mr. Palmin his base salary for 11 months after the date of termination; (iii) continue to provide him benefits for 11 months after the date of termination; and (iv) fifty percent of his unvested stock options will vest. The agreement also contains a non-compete provision, which prohibits Mr. Palmin from competing with us for one year after termination of his employment with us.

"Cause" means (i) gross neglect of duties for which employed; (ii) committing fraud, misappropriation or embezzlement in the performance of duties as our employee; (iii) conviction or guilty or nolo plea of a felony or misdemeanor involving moral turpitude; or (iv) willfully engaging in conduct materially injurious to us or violating a covenant contained in the employment agreement.

"Good Reason" means (i) the failure of our board of directors to elect Mr. Palmin to the offices of president and chief executive officer; (ii) the failure by our stockholders to continue to elect Mr. Palmin to our board of directors; (iii) our failure to pay Mr. Palmin the compensation provided for in the employment agreement, except for across-the-board cuts applicable to all of our officers on an equal percentage basis, provided that such reduction is approved by our board of directors; (iv) relocation of Mr. Palmin's principal place of employment to a location beyond 50 miles of Newton, Massachusetts; (v) a reduction of base salary or material reduction in other benefits or any material change by us to Mr. Palmin's function, duties, authority, or responsibilities, which change would cause Mr. Palmin's position with us to become one of lesser responsibility, importance, or scope; and (vi) our material breach of any of the other provisions of the employment agreement.

On July 15, 2005, we entered into an employment agreement with Christopher J. Pazoles whereby he agreed to serve as our vice president of research and development for an initial term of two years. The agreement is automatically renewed for successive one-year terms unless notice of termination is provided by either party at least 60 days prior to the end of such term. The agreement was renewed for an additional one-year term on July 15, 2008 in accordance with its terms. The agreement provides for minimum salary and bonus amounts during the first two years of his employment. These minimum amounts have been satisfied. Dr. Pazoles' agreement provides that he is entitled to participate in our employee fringe benefit plans or programs generally available to our senior executives. The agreement further provides that in the event that we terminate Dr. Pazoles without cause or he resigns for good reason (as defined below), we will (i) pay Dr. Pazoles his base salary through the remainder of the term of his employment agreement in monthly installments; (ii) continue to provide him benefits for 12 months after the date of termination; and (iii) pay, on a prorated basis, any minimum bonus or other payments earned.

Dr. Pazoles also entered into a nondisclosure and development agreement with us, which prohibits him from competing with us and soliciting our employees or customers during the term of his employment and for two years thereafter. If we terminate his employment without cause, this prohibition will only extend for six months after his termination.

"Cause" means Dr. Pazoles (i) has willfully failed, neglected, or refused to perform his duties under the employment agreement; (ii) has been convicted of or pled guilty or no contest to a crime involving a felony; or (iii) has committed any act of dishonesty resulting in material harm to us.

"Good Reason" means that Dr. Pazoles has resigned due to our failure to meet any of our material obligations to him under the employment agreement.

Outstanding Equity Awards at Fiscal Year-End

The following table sets forth certain information regarding stock options held as of December 31, 2008 by the executive officers named in the summary compensation table.

	Individual Grants				
Name	Year of Grant	Number of securities underlying unexercised options (#) exercisable	Number of securities underlying unexercised options (#) unexercisable	Exercise or base price ($/share)	Expiration date
Harry S. Palmin	2008(1)	—	400,000	$ 0.43	12/15/2018
	2007(1)	66,666	133,334	0.45	12/17/2017
	2006(1)	100,000	50,000	0.91	12/11/2016
	2005(2)	250,000	—	0.01	1/31/2015
	2005(2)	150,000	—	0.01	3/31/2015
	2004(3)	330,000	—	0.01	4/1/2014
	2003(4)	7,130	—	0.70	8/1/2013
Christopher J. Pazoles.	2008(1)	—	200,000	$ 0.43	12/15/2018
	2007(1)	41,666	83,334	0.45	12/17/2017
	2006(1)	66,666	33,334	0.91	12/11/2016
	2005(5)	200,000	—	0.01	4/8/2015
	2004(6)	16,667	—	0.01	4/1/2014
Kristin C. Schuhwerk	2008(1)	—	200,000	$ 0.43	12/15/2018
	2007(1)	41,666	83,334	0.45	12/17/2017
	2006(1)	50,000	25,000	0.91	12/11/2016
	2005(7)	100,000	—	2.20	7/1/2015

(1) These shares vest annually in increments of one-third over three years from the date of grant. The exercise price equals the closing price on the date of grant.

(2) These shares initially vested over a two-year period. Pursuant to their terms, the shares fully vested upon the completion of a non-bridge loan financing, which occurred in the second quarter of 2005. The exercise price equals the fair market value of our common stock on the date of grant as determined by our board of directors.

(3) These shares initially vested one-third upon grant and one third annually over the following two years. Pursuant to their terms, one additional year of vesting occurred upon the completion of a non-bridge loan financing, which occurred in the second quarter of 2005. The exercise price equals the fair market value of our common stock on the date of grant as determined by our board of directors.

(4) These shares vest annually in increments of one-third over three years from the date of grant. The exercise price equals the fair market value of our common stock on the date of grant as determined by our board of directors.

(5) These shares vested in increments of one-fourth every six months over two years from the date of grant. The exercise price equals the fair market value of our common stock on the date of grant as determined by our board of directors.

(6) These shares represent the fully vested portion of an option grant made to Mr. Pazoles in consideration of consulting services delivered during 2004. Pursuant to their terms, the shares vested at the completion of the consulting engagement and expire ten years from the date of grant.

(7) These shares vest in increments of one-fourth every six months over two years from the date of grant. The exercise price equals the closing price on the date of grant.

Options granted pursuant to the 2006 Stock Incentive Plan will become fully vested upon a termination event within one year following a change in control, as defined. A termination event is defined as either termination of employment other than for cause or constructive termination resulting from a significant reduction in either the nature or scope of duties and responsibilities, a reduction in compensation or a required relocation.

Director Compensation

Summary Compensation: The following table sets forth certain information about the compensation we paid or accrued with respect to our directors who served during the year ended December 31, 2008.

Name and Principal Position	Year	Director Fees ($) (3)	Option Awards ($) (4)	All other compensation ($)	Total ($)
Stephen A. Hill, Chairman (1)	2008	$ 38,000	$ 37,924	$ —	$ 75,924
Michael J. Doyle, Director (1)	2008	30,250	37,924	—	68,174
Sim Fass, Director (1)	2008	30,250	37,924	—	68,174
James S. Manuso, Director (1)	2008	23,000	37,924		60,924
David B. McWilliams, Director (1)	2008	26,750	37,924	—	64,674
Simyon Palmin, Director and director of Russian relations (2)	2008	—	—	88,133	88,133
Howard M. Schneider, Director (1)	2008	36,750	37,924	—	74,674

(1) As of December 31, 2008, outstanding options to purchase common stock held by directors were as follows: Dr. Hill 270,000; Mr. Doyle 270,000; Dr. Fass 270,000; Dr. Manuso 220,000; Mr. McWilliams 322,778; Mr. Schneider 170,000.

(2) Simyon Palmin, a founder of Novelos and the father of Harry Palmin, resigned from our board of directors on August 12, 2008. He remained an employee until August 31, 2008 and provided consulting services to us for the remainder of the year. Other compensation for Mr. Palmin represents salary and bonus he received in his capacity as director of Russian relations and consulting fees paid to him for the months of September through December. As of December 31, 2008, Mr. Palmin held 300,000 options to purchase common stock. In addition, The Liberty Irrevocable Trust 2008, a trust for which his wife Alla is sole trustee, held 170,000 options to purchase common stock. The total of 470,000 options had been granted to Mr. Palmin during 2004 and 2005 in his capacity as chairman and chief executive officer.

(3) Director fees include all fees earned for director services including quarterly fees, meeting fees and committee chairman fees.

(4) The fair value of each stock award was estimated on the grant date using the Black-Scholes option-pricing model. See Note 6 to the financial statements for a description of the assumptions used in estimating the fair value of stock options.

During 2008, we paid our non-employee directors a cash fee of $5,000 per quarter. The non-employee directors also received a fee of $1,500 for any board or committee meeting attended and $750 for each telephonic board or committee meeting in which the director participated. We also paid our chairman an additional annual fee in the amount of $15,000, each non-employee director who serves as the chair of the audit committee an additional annual fee of $10,000 and each non-employee director who serves as the chairman of the compensation and nominating and corporate governance committees an additional annual fee of $5,000. We reimbursed directors for reasonable out-of-pocket expenses incurred in attending board and committee meetings and undertaking certain matters on our behalf. Directors who are our employees do not receive separate fees for their services as directors. There has been no change to cash fees payable to non-employee directors for 2009.

During 2008, each non-employee director received an annual stock option grant of 40,000 shares of our common stock at the closing price of our common stock on the first trading day of the fiscal year. On December 15, 2008, options to purchase 80,000 shares of our common stock were granted for 2009 to each of our non-employee directors at the closing price of our common stock on that day. Both of these option grants vest on a quarterly basis over a two-year period.

Equity compensation plans

The following table provides information as of December 31, 2008 regarding shares authorized for issuance under our equity compensation plans, including individual compensation arrangements.

We have two equity compensation plans approved by our stockholders: the 2000 Stock Option and Incentive Plan and the 2006 Stock Incentive Plan. We have also issued options to our directors and consultants that were not approved by our stockholders. These options are exercisable within a ten-year period from the date of the grant and vest at various intervals with all options being fully vested within three years of the date of grant. The option price per share is not less than the fair market value of our common stock on the date of grant.

Equity compensation plan information

Plan category	Number of shares to be issued upon exercise of outstanding options, warrants and rights (#) (a)	Weighted-average exercise price of outstanding options, warrants and rights ($) (b)	Number of shares remaining available for future issuance under equity compensation plans (excluding shares reflected in column (a)) (#) (c)
Equity compensation plans approved by stockholders	4,826,047	$ 0.61	230,000
Equity compensation plans not approved by stockholders	2,453,778	$ 0.57	0
Total	7,279,825	$ 0.60	230,000

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

At the close of business on September 1, 2009, there were issued and outstanding 54,585,175 shares of our common stock. The following table provides information regarding beneficial ownership of our common stock as of September 1, 2009:

- Each person known by us to be the beneficial owner of more than five percent of our common stock;
- Each of our directors;
- Each executive officer named in the summary compensation table; and
- All of our current directors and executive officers as a group.

The address of each executive officer and director is c/o Novelos Therapeutics, Inc., One Gateway Center, Suite 504, Newton, Massachusetts 02458. The persons named in this table have sole voting and investment power with respect to the shares listed, except as otherwise indicated. The inclusion of shares listed as beneficially owned does not constitute an admission of beneficial ownership. Shares included in the "Right to Acquire" column consist of shares that may be purchased through the exercise of options that vest within 60 days of September 1, 2009.

	Shares Beneficially Owned (3)			
Name and Address of Beneficial Owner	**Outstanding**	**Right to Acquire**	**Total**	**Percentage**
Purdue Pharma, L.P. (1) One Stamford Forum 201 Tresser Blvd. Stamford, CT 06901-3431	5,303,030	0	5,303,030	9.7
CRE Fiduciary Services, Inc. as Trustee of the CRE Trust 2120 Carey Avenue Cheyenne, WY 82001	4,615,384	0	4,615,384	8.5
Harry S. Palmin (2)	641,118	903,796	1,544,914	2.8
Christopher J. Pazoles	0	324,999	324,999	*
Kristin C. Schuhwerk	0	191,666	191,666	*
Stephen A. Hill	0	215,000	215,000	*
Michael J. Doyle	0	215,000	215,000	*
Sim Fass	0	215,000	215,000	*
James S. Manuso	0	165,000	165,000	*
David B. McWilliams	0	267,778	267,778	*
Howard M. Schneider	100,000	115,000	115,000	*
All directors and officers as a group (11 persons)	741,118	2,833,238	3,574,356	6.2

* Less than one percent.

(1) Following the financing transaction completed on August 25, 2009, Purdue transferred its shares of common stock and warrants to purchase common stock of Novelos to Beacon Company (c/o Whitely Chambers, Don Street, St. Helier, Jersey JE49WG, Channel Islands) and Rosebay Medical Company L.P. (c/o Northbay Associates, 14000 Quail Springs Parkway #2200, Oklahoma City, OK 73134), which are independent associated companies of Purdue. The "Right to Acquire" column excludes shares issuable on conversion of Series E Preferred Stock and upon exercise of warrant issued in February 2009 as described in the table below.

(2) Shares owned by H. Palmin include 94,000 shares owned by his wife, Deanna Palmin.

(3) The terms of our Series E preferred stock and common stock purchase warrants issued to the holders of Series E preferred stock provide that the number of shares of common stock to be obtained by each of the holders of Series E preferred stock and common stock purchase warrants, upon conversion of the Series E preferred stock or exercise of the common stock purchase warrants, cannot exceed the number of shares that, when combined with all other shares of our common stock and securities owned by each of them, would result in any one of them owning more than 4.99% or 9.99%, as applicable in the certificate of designations and warrant agreement, of our outstanding common stock, provided, however that this limitation may be revoked by the stockholder upon 61 days prior notice to us. For this reason, holders of our Series E preferred stock who might otherwise have the right to acquire 5% or more of our common stock have been omitted from this table. Such limitations do not apply in the event of automatic conversion of Series E preferred stock. Similar blocking provisions apply to outstanding shares of our Series C preferred stock and common stock purchase warrants issued to the holders of Series C preferred stock and therefore holders of our Series C preferred stock who might otherwise have the right to acquire 5% or more of our common stock have also been omitted from this table.

Pro Forma Holdings Upon Automatic Conversion of Series E Preferred Stock

The following table illustrates the pro forma beneficial ownership of our common stock that would result in the event of an automatic conversion of all of the outstanding shares of our Series E preferred stock into common stock. All outstanding shares of Series E preferred stock automatically convert in the event the volume weighted average price of our common stock, calculated in accordance with the terms of the Series E preferred stock, exceeds $2.00 for 20 consecutive trading days, provided there is an effective registration statement covering the resale of the shares of common stock so issuable. At the current conversion price of $0.65, the automatic conversion of all outstanding shares of Series E preferred stock, excluding any accumulated dividends, would result in the issuance of 47,360,983 shares of common stock. In the table below, share holdings have been presented in total for groups of associated funds or companies. Such presentation is not intended to represent that such funds or companies are under common control.

Name and Address of Beneficial Owner	Outstanding Shares of Common Stock	Shares of common stock issuable upon automatic conversion of Series E preferred stock	Total pro forma ownership (1)	Pro forma ownership percentage (2)
Xmark affiliated funds (3) 90 Grove Street Ridgefield, CT 06877	0	9,082,045	9,082,845	8.9%
Orbimed affiliated funds (4) 767 Third Avenue, 30th Floor New York, NY 10017	1,103,740	8,589,688	9,693,428	9.5%
Knoll affiliated funds (5) 666 Fifth Avenue, Suite 3702 New York, NY 10103	1,677,785	9,247,776	10,925,561	10.7%

Name and Address of Beneficial Owner	Outstanding Shares of Common Stock	Shares of common stock issuable upon automatic conversion of Series E preferred stock	Total pro forma ownership (1)	Pro forma ownership percentage (2)
Hunt Bioventures 1900 N. Akard Street Dallas, TX 75201	0	5,056,860	5,056,860	4.9%
Purdue Pharma, L.P. (6) One Stamford Forum 201 Tresser Blvd. Stamford, CT 06901-3431	5,303,030	15,384,614	20,687,644	20.3%

(1) Pro forma ownership does not include 22,952,212 shares of common stock issuable upon exercise of outstanding warrants, due to the effect of the blocker provisions described in Note 3 of the preceding table. Pro forma ownership also does not include accumulated undeclared dividends totaling approximately $1,600,000 at September 1, 2009, that may be converted into approximately 2,461,000 shares of common stock in connection with the conversion of the associated shares of Series E preferred stock.

(2) Based on 101,946,158 shares of common stock outstanding, which reflects the number of shares of common stock outstanding as of September 1, 2009, plus the total number of shares issuable upon conversion of all of the outstanding shares of Series E preferred stock.

(3) Includes Xmark Opportunity Partners LLC, Xmark Opportunity Fund, Ltd., Xmark Opportunity Fund, L.P., Xmark JV Investment Partners, LLC.

(4) Includes Orbimed Advisors LLC, Caduceus Capital Master Fund Limited, Caduceus Capital II, LP, UBS Eucalyptus Fund, L.L.C., PW Eucalyptus Fund, Ltd., and Summer Street Life Sciences Investors LLC.

(5) Includes Knoll Capital, Knoll Special Opportunities Fund II Master Fund, Ltd., Europa International, Inc.

(6) Following the financing transactions completed on February 11, 2009 and August 25, 2009, Purdue transferred its shares of Series E preferred stock, shares of common stock and warrants to purchase common stock of Novelos to Beacon Company and Rosebay Medical Company L.P., which are independent associated companies of Purdue.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

We are obligated to ZAO BAM, a Russian company engaged in the pharmaceutical business, under a royalty and technology transfer agreement. Mark Balazovsky, one of our directors until November 2006, is the majority shareholder of ZAO BAM. Pursuant to the royalty and technology transfer agreement between Novelos and ZAO BAM, we are required to make royalty payments of 1.2% of net sales of oxidized glutathione-based products. We are also required to pay ZAO BAM $2 million for each new oxidized glutathione-based drug within eighteen months following FDA approval of such drug.

If a royalty is not being paid to ZAO BAM on net sales of oxidized glutathione products, then we are required to pay ZAO BAM 3% of all license revenues. If license revenues exceed our cumulative expenditures including, but not limited to, preclinical and clinical studies, testing, FDA and other regulatory agency submission and approval costs, general and administrative costs, and patent expenses, then the Company would be required to pay ZAO BAM an additional 9% of the amount by which license revenues exceed the Company's cumulative expenditures. During 2008, we paid ZAO BAM $15,000, which was 3% of license payments received under the collaboration agreement with Lee's Pharm, described in Note 5 to the financial statements.

As a result of the assignment to Novelos of the exclusive worldwide intellectual property and marketing rights of oxidized glutathione (excluding the Russian Territory), Novelos is obligated to the Oxford Group, Ltd. for future royalties. Simyon Palmin, a founder of Novelos, a director until August 15, 2008 and the father of the Company's president and chief executive officer, is president of Oxford Group, Ltd. Mr. Palmin was also an employee of the Company and is now a consultant to the Company. Pursuant to the agreement, as revised May 26, 2005, Novelos is required to pay Oxford Group, Ltd. a royalty in the amount of 0.8% of the Company's net sales of oxidized glutathione-based products.

Director Independence

Each member of the Audit Committee, the Compensation Committee and the Nominating and Corporate Governance Committee meets the independence requirements of the NASDAQ Stock Market for membership on the committees on which he serves. The board of directors considered the information included in transactions with related parties as outlined above along with other information the board considered relevant, when considering the independence of each director. Harry S. Palmin is our only non- independent director.

PRIVATE PLACEMENTS OF OUR SECURITIES WITH THE SELLING STOCKHOLDERS

Sales of Convertible Preferred Stock and Warrants

Securities Purchase Agreement

On May 2, 2007, pursuant to a securities purchase agreement dated April 12, 2007, as amended on May 2, 2007, we sold 300 shares of a new series of preferred stock, designated "Series B Convertible Preferred Stock", with a stated value of $50,000 per share (the "Series B preferred stock") and issued warrants to purchase 7,500,000 shares of common stock to the selling stockholders for an aggregate purchase price of $15,000,000 (the "Series B Financing"). The shares of Series B preferred stock issued to the investors were initially convertible into shares of common stock at $1.00 per share at any time after issuance, at the option of the holder. If all the shares of Series B preferred stock were converted following closing, a total of 15,000,000 shares of common stock would have been issued.

On April 11, 2008, pursuant to a securities purchase agreement dated March 26, 2008, as amended on April 9, 2008, we sold 113.5 shares of our "Series D Convertible Preferred Stock", with a stated value of $50,000 per share (the "Series D preferred stock"), and issued warrants to purchase up to 4,365,381 shares of common stock (the "Series D Financing") to the selling stockholders. If all of these shares of Series D preferred stock were converted following the closing, a total of 8,730,755 shares of common stock would have been issued.

Upon 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. Following the exchange, no shares of Series B preferred stock remained outstanding and a certificate of elimination of the Series B preferred stock was subsequently filed in Delaware. The rights and preferences of the Series D preferred stock were substantially the same as the Series B preferred stock, but the conversion price of the Series D preferred stock was $0.65. As a result of the reduced conversion price, Series B preferred stock that was convertible into 15,000,000 shares of common stock was exchanged for shares of Series D preferred stock convertible into 23,076,900 shares of common stock. If all outstanding shares of Series D preferred stock were converted following the closing, a total of 31,807,655 shares of common stock would have been issued.

On February 11, 2009, we sold 200 shares of our "Series E Convertible Preferred Stock", with a stated value of $50,000 per share (the "Series E preferred stock"), and issued warrants to purchase up to 9,230,769 shares of common stock (the "Series E Financing") to Purdue. The 200 shares of Series E preferred stock held by Purdue are convertible into 15,384,615 shares of common stock.

Upon the closing of the Series E Financing, the holders of our Series D preferred stock exchanged all 413.5 shares of their Series D preferred stock and accrued dividends thereon for 445.442875 shares of Series E preferred stock, convertible into 34,264,831 shares of common stock. Following the exchange, no shares of Series D preferred stock remained outstanding and a certificate of elimination of the Series D preferred stock was filed in Delaware. The rights and preferences of the Series E preferred stock are substantially the same as the Series D preferred stock. The exchange was completed principally so that the rights of Purdue would be substantially the same as the rights of the holders of the Series D preferred stock prior to the exchange.

Collaboration Agreement with Mundipharma

Concurrently with the closing of the Series E Financing, we entered into a collaboration agreement with Mundipharma for the development, manufacture and commercialization of licensed products including our lead compound, NOV-002, in Europe (other than the Russian Territory), Asia (other than the Chinese Territory) and Australia (collectively referred to as the "Mundipharma Territory"). Mundipharma is an independent associated company of Purdue.

Under the collaboration agreement, Mundipharma received an exclusive license to develop, manufacture, market, sell or otherwise distribute the licensed products and improvements thereon in the MundipharmaTerritory. We are responsible for the cost and execution of development, regulatory submissions and commercialization of NOV-002 outside the Mundipharma Territory, and Mundipharma is responsible for the cost and execution of certain development activities, all regulatory submissions and all commercialization within the Mundipharma Territory. In the unlikely event that Mundipharma is required to conduct an additional Phase 3 clinical trial in first-line advanced-stage non-small cell lung cancer in order to gain regulatory approval in Europe, Mundipharma will be entitled to recover the full cost of such trial by reducing milestone, fixed sales-based payments and royalty payments to us by up to 50% of the payments owed until Mundipharma recovers the full costs of such trial. In order for Mundipharma or Novelos to access the other party's data or intellectual property related to independent trials described in the collaboration agreement, the accessing party must pay the sponsoring party 50% of the cost of such trial.

The launch of licensed products, including initiation of regulatory and pricing approvals, and subsequent commercial efforts to market and sell licensed products in each country in the Mundipharma Territory, will be determined by Mundipharma based on its assessment of the commercial viability of the licensed products, the regulatory environment and other factors. We have no assurance that it will receive any amount of the launch payments, fixed sales-based payments or royalties described below.

Mundipharma will pay us $2.5 million upon the launch of NOV-002 in each country in the Mundipharma Territory, up to a maximum of $25 million. In addition, Mundipharma will make fixed sales-based payments up to an aggregate of $60 million upon the achievement of certain annual sales levels payable once the annual net sales exceed the specified thresholds. Mundipharma will also pay as royalties to us, during the term of the Collaboration Agreement, a double-digit percentage on net sales of licensed products, based upon a four-tier royalty schedule, in countries within the Mundipharma Territory where we held patents on the licensed technology as of the effective date of the agreement. Royalties in countries in the Mundipharma Territory where we do not hold patents as of the effective date will be paid at 50% of the royalty rates in countries where patents are held. The royalties will be calculated based on the incremental net sales in the respective royalty tiers and shall be due on net sales in each country in the Mundipharma Territory where patents are held until the last patent expires in the respective country. In countries in the Mundipharma Territory where we do not hold patents as of the effective date of the collaboration agreement, royalties will be due until the earlier of 15 years from the date of the collaboration agreement or the introduction of a generic in the respective country resulting in a 20% drop in Mundipharma's market share in such country.

For countries in which patents are held, the collaboration agreement expires on a country-by-country basis within the Mundipharma Territory on the earlier of (1) expiration of the last applicable Novelos patent within the country or (2) the determination that any patents within the country are invalid, obvious or otherwise unenforceable. For countries in which no patents are held, the collaboration agreement expires the earlier of 15 years from its effective date or upon generic product competition in the country resulting in a 20% drop in Mundipharma's market share. We may terminate the collaboration agreement upon breach or default by Mundipharma. Mundipharma may terminate the collaboration agreement upon breach or default, filing of voluntary or involuntary bankruptcy by Novelos, the termination of certain agreements with companies associated with the originators of the licensed technology, or 30-day notice for no reason. If any regulatory approval within the Mundipharma Territory is suspended as a result of issues related to the safety of the licensed products, then Mundipharma's obligations under the collaboration agreement will be suspended until the regulatory approval is reinstated. If that reinstatement does not occur within 12 months of the suspension, then Mundipharma may terminate the collaboration agreement.

Since entering into the collaboration agreement, we have been working closely with Mundipharma on non-clinical, manufacturing and regulatory activities, as well as planning future clinical trials with NOV-002.

Common Stock Purchase Warrants

In connection with the Series D Financing, we issued five-year warrants to purchase an aggregate of 4,365,381 shares of our common stock for an aggregate purchase price of $5,675,000 (the "Series D warrants"). The Series D warrants have an exercise price of $0.65 per share and an initial expiration date in April 2013.

In connection with the Series B Financing, we issued warrants to purchase an aggregate of 7,500,000 shares of our common stock (the "Series B warrants"). The Series B warrants had an initial exercise price of $1.25 per share and expired in May 2012. In connection with the Series D Financing, the terms of the Series B warrants were amended to reduce the exercise price to $0.65 per share and extend the expiration date to April 2013.

In connection with the Series E Financing, including the issuance of warrants to purchase 9,230,769 shares of common stock (the "Series E arrants") as described above, the Series B warrants and the Series D warrants were amended to extend their expiration date to December 31, 2015.

Registration Rights Agreements

In connection with the Series B Financing, we entered into a registration rights agreement that required us to file with the SEC no later than June 1, 2007, a registration statement covering the resale of 23,400,000 shares of common stock (i.e. 100% of the shares of common stock issuable upon conversion of the Series B preferred stock and exercise of the related warrants). We filed a registration statement covering 23,400,000 shares of common stock on May 25, 2007. After discussion with the SEC, the registration statement was amended to cover only 12,000,000 shares of common stock issuable upon conversion of 240 shares of the Series B preferred stock. The holders of Series B preferred stock (i) consented to the reduction of shares being covered by the registration statement from 23,400,000 to 12,000,000, (ii) agreed to extend the date by which the registration statement must be declared effective from August 30, 2007 to September 7, 2007 and (iii) waived, through September 7, 2007, any liquidated damages arising as a result of the reduction in the number of shares being registered and by the failure to have the registration statement declared effective by August 30, 2007. The SEC declared this registration statement effective on September 6, 2007 and the most recent post-effective amendment was declared effective on April 27, 2009 and remains effective as of the date of the filing of this registration statement.

On April 11, 2008 in connection with the closing of the Series D Financing, the holders of Series B preferred stock waived any and all liquidated damages arising under the registration rights agreement during the period from September 7, 2007 through the closing of the Series D Financing as a result of our failure to register 100% of the shares of common stock issuable upon conversion of the Series B preferred stock and exercise of the related warrants. In addition, we entered into an amendment to the above described registration rights agreement with the holders of our Series B preferred stock to (i) revise the definition of registrable securities under the agreement to only include the 12,000,000 shares of common stock that are included on a the registration statement that became effective on September 6, 2007, (ii) clarify that our registration obligations survive the exchange of Series B preferred stock for Series D preferred stock and (iii) extend our registration obligations under the registration rights agreement by one year. Under the amended registration rights agreement, we are required to use our best efforts to 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 third anniversary of the closing. We are 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 without incurring liability for the liquidated damages in certain circumstances.

In connection with the Series D Financing, we entered into a registration rights agreement (the "2008 Registration Rights Agreement") with the investors (the "Series D Investors") which required us to file with the SEC 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 are included on a prior registration statement), (ii) 4,365,381 shares of common stock issuable upon exercise of the Series D warrants and (iii) 7,500,000 shares of common stock issuable upon exercise of the Series B warrants. This registration rights agreement provided for the payment of liquidated damages in the event that the registration statement was not filed by the time specified. That registration statement was not filed.

In connection with the Series E Financing, the Series D Investors waived all damages that had accrued through February 11, 2009 as a result of our failure to file the registration statement. Also, simultaneously with the closing of the Series E Financing we entered into a new registration rights agreement with Purdue and the Series D Investors replacing the 2008 Registration Rights Agreement. We are required to file with the Securities and Exchange Commission by September 15, 2009, 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 E Preferred Stock (excluding 12,000,000 shares of common stock included in this registration statement), (ii) 9,230,769 shares of common stock issuable upon exercise of the warrants issued to Purdue and (iii) 11,865,381 shares of common stock issuable upon exercise of warrants held by the Series D Investors. We are required to use our best efforts to have this registration statement declared effective and to 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 until February 11, 2011. We are 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

Upon the closing of the Series B Financing we paid a placement agent fee to Rodman & Renshaw LLC ("Rodman") and Rodman's subagent, Emerging Growth Equities, Ltd., in cash in the amount of $1,050,000 and issued Rodman and the subagent warrants to purchase 765,000 and 135,000 shares of common stock, respectively, having the same terms as the warrants issued to the investors. This placement agent fee was made in accordance with a letter agreement dated February 12, 2007 between us and Rodman. We also agreed to indemnify Rodman from claims arising in relation to the services it provided to us in connection with the letter agreement. Following the closing of the Series D Financing we paid Rodman a cash fee of $100,000.

Advisor Fees

Ferghana Partners, Inc. ("Ferghana"), a New York consulting firm, received a cash fee for their services in connection with the negotiation and execution of the collaboration agreement equal to $700,000 (or seven percent (7%) of the gross proceeds to the Company resulting from the sale of Series E preferred stock and the Series E warrants to Purdue. Ferghana will also receive cash fees equal to six percent (6%) of all payments to Novelos by Mundipharma under the collaboration agreement other than royalties on net sales.

Sale of Common Stock and Warrants to Purdue

Securities Purchase Agreement

On August 25, 2009, we entered into the August 2009 Purchase Agreement with Purdue to sell at two or more closings 13,636,364 shares of our common stock and warrants to purchase 4,772,728 shares of our common stock at an exercise price of $0.66, expiring December 31, 2015, for an aggregate purchase price of $9,000,000. Upon entering into the August 2009 Purchase Agreement, we initially sold Purdue 5,303,030 shares of common stock and a warrant to purchase 1,856,062 shares of common stock at $0.66 per share for approximately $3,500,000 (the "Initial Closing"). The sale of the remaining common stock and warrants will be completed in one or more subsequent closings subject to the availability of additional authorized shares of our common stock and the satisfaction of certain customary closing conditions. We have scheduled a special meeting of shareholders to be held in the fourth quarter of 2009, at which we will ask our shareholders to approve an amendment to our certificate of incorporation increasing the number of authorized shares of common stock to allow for the completion of the transaction with Purdue.

Under the August 2009 Purchase Agreement, Novelos is prohibited from negotiating with any party other than Purdue for the license or other acquisition of NOV-002 Rights) in the United States (the "U.S. License") until Purdue receives certain information related to our Phase 3 clinical trial in non-small cell lung cancer (the "Exclusive Negotiation Period"). If, during the Exclusive Negotiation Period, Purdue and Novelos agree on terms for a definitive agreement for the U.S. License, Novelos shall grant Purdue an option to enter into such definitive agreement within 30 days after the expiration of the Exclusive Negotiation Period. Purdue has also been granted a right of first refusal (the "Right of First Refusal") on bona fide offers to obtain NOV-002 Rights in the United States received from third parties. Under the Right of First Refusal, Novelos is required to communicate to Purdue the terms of any such third-party offers received and Purdue will have 30 days to enter into a definitive agreement with Novelos on substantially similar terms that provide no lesser economic benefit to Novelos as in the third-party offer. The Right of First Refusal terminates upon specified business combinations, occurring after the Exclusive Negotiation Period. The Right of First Refusal will also terminate if Purdue fails to purchase our securities at a subsequent closing under the August 2009 Purchase Agreement after all conditions to Purdue's obligation to close have been satisifed. Novelos has separately entered into letter agreements with Mundipharma and an independent associated company of Mundipharma providing for a conditional exclusive right to negotiate for, and a conditional right of first refusal with respect to, NOV-002 Rights (i) for Mexico, Central America, South America and the Caribbean and (ii) for Canada, respectively.

Pursuant to the August 2009 Purchase Agreement, Purdue will have the right to either designate one member to Novelos' board of directors (the "Board") or designate an observer to attend all meetings of the Board, committees thereof and access to all information made available to members of the Board. This right shall last until the later of such time as Purdue or its associated companies no longer hold at least one-half of the common stock purchased pursuant to the Purchase Agreement and no longer hold at least one-half of the Series E preferred stock issued on February 11, 2009. Purdue also has the right to participate in future equity financings in proportion to their pro rata ownership of common and preferred stock.

Common Stock Purchase Warrant

The common stock purchase warrant has an exercise price of $0.66 and expires on December 31, 2015. The warrant exercise price and/or the number of shares of common stock issuable pursuant to such warrant will be subject to adjustment 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.

Registration Rights Agreement

As part of this transaction, we entered into a registration rights agreement with Purdue. The registration rights agreement requires us to file with the Securities and Exchange Commission no later than 5 business days following the earlier of the six-month anniversary of (i) the final subsequent closing or (ii) the end of the Exclusive Negotiation Period, a registration statement covering the resale of all the shares of common stock and all shares of common stock issuable upon exercise of the warrants, issued to pursuant to the August 2009 Purchase Agreement. 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 timely, we will be required to pay Purdue 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 common stock and 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. In the event that the any sale or issuances of common stock and warrants pursuant to the August 2009 Purchase Agreement occur after this filing deadline, we will be required to file a registration statement covering the registrable securities issued within 5 business days following the three-month anniversary of such sale or issuance.

SELLING STOCKHOLDERS

Selling Stockholders Table

Based on the information supplied to us by each selling stockholder, the following table sets forth the approximate number of shares beneficially owned as of September 1, 2009 by each of the selling stockholders and their pledgees, assignees and successors in interest. The ‘‘Right to Acquire’’ column reflects beneficial ownership of shares subject to warrants and convertible preferred stock that may be exercised or converted within 60 days after September 1, 2009. The “Shares Offered” column reflects all of the shares that each selling stockholder may offer under this prospectus. Percentage ownership is based on 54,585,175 shares issued and outstanding as of September 1, 2009. The table assumes that the selling stockholders sell all of the shares.

We prepared the table below based on information supplied to us by the selling stockholders. Although we have assumed for purposes of the table that the selling stockholders will sell all of the shares offered by this prospectus, because the selling stockholders may offer from time to time some or all of their shares covered under this prospectus, or in another permitted manner, no assurances can be given as to the actual number of shares that will be resold by the selling stockholders or that will be held by the selling stockholders after completion of the resales.

The terms of the Series E certificate of designations and common stock purchase warrants provide that the number of shares to be obtained by each of the holders of Series E preferred stock and warrants, upon conversion of Series D preferred stock or exercise of our common stock purchase warrants, cannot exceed the number of shares that, when combined with all other shares of our common stock and securities owned by each of them, would result in any one of them owning more than 4.99% or 9.99%, as applicable, of our outstanding common stock at any given point in time, provided however that this limitation may be revoked by the stockholder upon 61 days’ prior notice to the Company. Such limitations do not apply in the event of automatic conversion of Series E preferred stock. For purposes of the table below, we have disregarded these blocking provisions.

Information concerning the selling stockholders may change from time to time and changed information will be presented in a supplement to this prospectus if and when necessary and required. Except as described above, there are currently no agreements, arrangements or understandings with respect to the resale of any of the shares covered by this prospectus.

Except as described above under the caption "Private Placements of Our Securities with Selling Stockholders" and as set forth in the selling stockholders table below, including in the footnotes to the table, none of the selling stockholders has had any material relationship with us within the past three years.

	Beneficial Ownership Prior to Offering				Beneficial Ownership After Offering		
Name of Beneficial Owner	Outstanding	Right to Acquire	Total	Shares Offered (1)	Outstanding	Right to Acquire	Percent
Beacon Company (2)	2,651,515	13,235,722	15,887,237	12,307,691	2,651,515	928,031	6.5
Rosebay Medical Company L.P. (2)	2,651,515	13,235,723	15,887,238	12,307,692	2,651,515	928,031	6.5
Xmark Opportunity Fund, Ltd.	0	6,110,253	6,110,253	4,510,253	0	1,600,000	2.9
Xmark Opportunity Fund, L.P.	0	3,055,126	3,055,126	2,255,126	0	800,000	1.4
Xmark JV Investment Partners, LLC	0	3,055,126	3,055,126	2,255,126	0	800,000	1.4
Caduceus Capital Master Fund Limited (3)	630,664	4,746,272	5,376,936	4,377,040	630,664	369,232	1.8
Caduceus Capital II, L.P. (3)	473,076	3,171,605	3,644,681	3,131,604	473,076	40,001	*
Summer Street Life Sciences Investors LLC	0	1,213,268	1,213,268	1,213,268	0	0	*
UBS Eucalyptus Fund, L.L.C.	0	2,946,452	2,946,452	1,906,452	0	1,040,000	1.9
PW Eucalyptus Fund, Ltd.	0	282,282	282,282	219,974	0	62,308	*
Knoll Special Opportunities Fund II Master Fund, Ltd.(4)	268,485	5,503,619	5,772,104	3,903,619	268,485	1,600,000	3.3
Europa International, Inc. (4)	1,409,300	6,959,541	8,368,841	5,359,541	1,409,300	1,600,000	5.4
Hunt BioVentures, L.P. (4)	0	6,798,206	6,798,206	4,998,206	0	1,800,000	3.2

* Less than 1%

(1) Pursuant to Rule 416, shares offered also include shares that may become issuable as stock dividends on Series E Preferred Stock.

(2) Shares in the "Outstanding "column and 928,031 warrants to purchase common stock included in the "Right to Acquire" column were issued to Purdue Pharma, L.P. in a financing transaction that was completed on August 25, 2009. The shares and warrants were transferred to Beacon Company and Rosebay Medical Company L.P, both independent associated companies of Purdue, on August 26, 2009.

(3) Shares in the "Outstanding" column consist of shares issued upon the conversion of shares of Series E Preferred Stock and accumulated dividends.

(4) Shares in the "Outstanding" column consist of shares purchased in market transactions.

Voting and Investment Control

The table below sets forth selling stockholders that are entities and the names of individuals having voting and investment control over the securities held by these entities. We determined beneficial ownership based upon information supplied to us by the selling stockholders and in accordance with rules promulgated by the Securities and Exchange Commission, and the information is not necessarily indicative of beneficial ownership for any other purpose. The inclusion of shares listed as beneficially owned does not constitute an admission of beneficial ownership. Except as otherwise indicated, we believe that the persons or entities named in the following table have voting and investment power with respect to all shares of common stock shown as beneficially owned by them, subject to community property laws where applicable, and have not held any office or maintained any material relationship, except as investor or as described above, with us, or any of our predecessors or affiliates, over the past three years. Certain of the individuals with voting and investment control have indicated that they exercise such control through a corporate or other organizational structure, which structural information has not been included.

The following entities have informed us that the following individuals have voting and investment control over our securities held by them:

Entity	Voting and Investment Control
Beacon Company	Each of Jonathan G. White, Joerg Fischer and Steven Meiklejohn, Stanhope Gate Corp, managing general partner of Beacon Company
Rosebay Medical Company, L.P.	Stephen A. Ives, Rosebay Medical Company, Inc., general partner of Rosebay Medical Company, L.P.
Xmark Opportunity Fund, Ltd.	Mitchell Kaye and David Cavalier
Xmark Opportunity Fund, L.P.	Mitchell Kaye and David Cavalier
Xmark JV Investment Partners, LLC	Mitchell Kaye and David Cavalier
Caduceus Capital Master Fund Limited	Samuel D. Isaly
Caduceus Capital II, L.P.	Samuel D. Isaly
Summer Street Life Sciences Investors LLC	Samuel D. Isaly
UBS Eucalyptus Fund, L.L.C.	Samuel D. Isaly
PW Eucalyptus Fund, Ltd.	Samuel D. Isaly
Knoll Special Opportunities Fund II Master Fund, Ltd.	Fred Knoll, KOM Capital Management as Investment Manager for Knoll Special Opportunities Fund II Master Fund, Ltd.
Europa International, Inc.	Fred Knoll, Knoll Capital Management as Investment Manager for Europa International Inc.
Hunt BioVentures, L.P.	Michael T. Bierman, Christopher W. Kleinert, J. Fulton Murray III

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.

DESCRIPTION OF SECURITIES

Under our amended and restated certificate of incorporation, our authorized capital stock consists of 150,000,000 shares of common stock, $0.00001 par value per share and 7,000 shares of preferred stock, $0.00001 par value per share.

Our amended and restated certificate of incorporation authorizes us to issue shares of our preferred stock from time to time in one or more series without stockholder approval. As of September 1, 2009, we had designated 272 shares of Series C cumulative convertible preferred stock, 237 of which were issued and outstanding as of that date and 735 shares of Series E preferred stock, 615.692875 of which were issued and outstanding as of that date.

All outstanding shares of our common stock and preferred stock are duly authorized, validly issued, fully-paid and non-assessable.

Common Stock

Voting. Holders of our common stock are entitled to one vote per share held of record on all matters to be voted upon by our stockholders. Our common stock does not have cumulative voting rights. Persons who hold a majority of the outstanding common stock entitled to vote on the election of directors can elect all of the directors who are eligible for election.

Dividends. Subject to preferences that may be applicable to the holders of any outstanding shares of our preferred stock, the holders of our common stock are entitled to receive such lawful dividends as may be declared by our board of directors.

Liquidation and Dissolution. In the event of our liquidation, dissolution or winding up, and subject to the rights of the holders of any outstanding shares of our preferred stock, the holders of shares of our common stock will be entitled to receive pro rata all of our remaining assets available for distribution to our stockholders.

Other Rights and Restrictions. Our charter prohibits us from granting preemptive rights to any of our stockholders. All outstanding shares are fully paid and nonassessable.

Listing. Our common stock is traded on the over-the-counter bulletin board under the trading symbol “NVLT.OB”.

Series C 8% Cumulative Convertible Preferred Stock

Stated Value: The Series C preferred stock has a stated value of $12,000 per share.

Voting Rights: The Series C preferred stockholders do not have voting rights.

Dividends: The Series C preferred stock had an annual dividend rate of 8% until October 1, 2008 and thereafter has an annual dividend rate of 20%. The dividends are payable quarterly commencing on June 30, 2007. Such dividends shall only be paid after all outstanding dividends on the Series E preferred stock (with respect to the current fiscal year and all prior fiscal years) shall have been paid to the holders of the Series E preferred stock. Such dividends shall be paid in cash.

Conversion: Each share of Series C preferred stock is currently convertible at a price of $0.65 per common share. The Series C preferred stock can be converted only to the extent that the Series C stockholder will not, as a result of the conversion, hold in excess of 4.99% of the total outstanding shares of our common stock, provided however that this limitation may be revoked by the stockholder upon 61 days’ prior notice to us.

Antidilution : Upon the occurrence of a stock split, stock dividend, combination of our common stock into a smaller number of shares, issuance of any of our shares or other securities by reclassification of our common stock, merger or sale of substantially all of our assets, the conversion rate shall be adjusted so that the conversion rights of the Series C preferred stock stockholders will be equivalent to the conversion rights of the Series C preferred stock stockholders prior to such event.

Redemption: The Series C preferred stock is not redeemable at the option of the holder. However, we may redeem the Series C preferred stock by paying to the holder a sum of money equal to one hundred twenty percent (120%) of the stated value per share plus any accrued but unpaid dividends upon 30 days’ (during which time the Series A preferred stock may be converted) prior written notice if a registration statement has been filed with and declared effective by the Securities and Exchange Commission covering the shares of our common stock issuable upon conversion of the Series C preferred stock.

Dissolution: In the event of any voluntary or involuntary liquidation, dissolution or winding up of our affairs, the Series C preferred stock will be treated as senior to our common stock. After all required payments are made to holders of Series E preferred stock, the Series C preferred stockholders will be entitled to receive first, $12,000 per share and all accrued and unpaid dividends. If, upon any winding up of our affairs, our remaining assets available to pay the holders of Series C preferred stock are not sufficient to permit the payment in full, then all our assets will be distributed to the holders of our Series C preferred stock (and any remaining holders of Series E preferred stock as may be required) on a pro rata basis.

Series E Convertible Preferred Stock

Stated Value: The Series E preferred stock has a stated value of $50,000 per share.

Voting and Board Rights: The Series E preferred stockholders 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 E preferred stock is entitled is equal to the number of shares of common stock that would be issued to such holder if the Series E Preferred Stock had been converted at the record date for the meeting of stockholders, subject to the limitations described under the subcaption "Conversion" below.

Pursuant to the securities purchase agreement dated March 26, 2008, the Xmark affiliated funds have the right to designate one member to our Board of Directors. This right shall last until such time as the Xmark affiliated funds no longer hold at least one-third of the preferred stock issued to them at closing. In addition, the Xmark affiliated funds and the Orbimed affiliated funds (together with the Xmark affiliated funds, the "Lead Investors") 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 lasts until such time as the Lead Investors no longer hold at least one-third of the preferred stock issued to them. Pursuant to August 2009 Purchase Agreement, Purdue has the right to either designate one member of our board of directors or designate an 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 lasts until the later of such time as Purdue or its assignees no longer hold at least one-half of the common stock and preferred stock issued to them.

Dividends: The Series E preferred stock has a dividend rate of 9% per annum, payable semi-annually. Such dividends may be paid in cash, in shares of Series E preferred stock or in registered shares of common stock. While any shares of Series E preferred stock remain outstanding, we are prohibited from paying dividends to common stockholders or any other class of preferred stock other than Series C preferred stock without the prior consent of the Series E holders. If consent is given, the holders of outstanding shares of Series E preferred stock are also entitled to participate in any dividends paid to common stockholders.

Conversion: Each share of Series E preferred stock is convertible at a price of $0.65 per common share at any time after issuance. The Series E preferred stock can be converted only to the extent that the Series E stockholder will not, as a result of the conversion, beneficially hold in excess of 4.99% or 9.99%, as applicable, of the total outstanding shares of our common stock, provided however that this limitation may be revoked by the stockholder upon 61 days' prior notice to the Company. If there is an effective registration statement covering the shares of common stock underlying the outstanding shares of Series E preferred stock and the daily volume weighted average price ("VWAP"), as defined in the Series E Certificate of Designations, of our common stock exceeds $2.00 for 20 consecutive trading days, then the outstanding Series E preferred stock will automatically convert, together with accrued dividends, into common stock at the conversion price then in effect.

Antidilution : Upon the occurrence of a stock split, stock dividend, combination of our common stock into a smaller number of shares, issuance of any of our shares or other securities by reclassification of our common stock, merger or sale of substantially all of our assets, the conversion rate shall be adjusted so that the conversion rights of the Series E preferred stock will be equivalent to the conversion rights of the Series E preferred stock stockholders prior to such event.

Liquidation: The Series E 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 E preferred stockholders will be entitled to receive first, prior to any distribution of any assets or surplus funds of the Company to the holders of common stock or any other class of capital stock, an amount equal to $50,000 per share and all accrued and unpaid dividends. They are then entitled to participate with the holders of the remaining classes of common stock in the distribution of remaining assets on a pro rata basis. If, upon any winding up of our affairs, our assets available to pay the holders of Series E preferred stock are not sufficient to permit the payment in full, or the amounts described above, then all our assets will be distributed to the holders of our Series E preferred stock on a pro rata basis.

If we sell, lease or otherwise transfer substantially all of our assets, consummate a business combination in which we are not the surviving corporation or, if we are the surviving corporation, if the holders of a majority of our common stock immediately before the transaction do not hold a majority of our common stock immediately after the transaction, in one or a series of events, change the majority of the members of our board of directors, or if any person or entity (other than the holders of Series E preferred stock) acquires more than 50% of our outstanding stock, then the holders of Series E 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 other classes or common stock in a distribution of the remaining assets.

Other restrictions: For as long as any shares of Series E preferred stock remain outstanding, without the prior consent of the requisite holders of Series E preferred stock (generally the Xmark affiliated funds, the Orbimed affiliated funds and Purdue), the Company is prohibited from (i) paying dividends to common stockholders; (ii) amending the Company's 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 E preferred stock (except for certain exempted issuances); (iv) increasing the number of shares of Series E preferred stock or issuing any additional shares of Series E preferred stock other than the shares designated in the Series E Certificate of Designations; (v) selling, licensing or otherwise disposing of all or substantially all of the Company's assets or intellectual property or entering into a merger or consolidation with another company unless Novelos is the surviving corporation, the Series E preferred stock remains outstanding and there are no changes to the rights and preferences of the Series E preferred stock; (vi) redeeming or repurchasing any capital stock other than Series E preferred stock; (vii) incurring any new debt for borrowed money in excess of $500,000 and (viii) changing the number of the Company's directors.

Anti-Takeover Effect of Delaware Law, Certain By-Law Provisions

Provisions of Delaware law, our charter and our by-laws could make it more difficult to acquire us by means of a merger, tender offer, proxy contest, open market purchases, removal of incumbent directors and otherwise. These provisions, which are summarized below, are expected to discourage types of coercive takeover practices and inadequate takeover bids and to encourage persons seeking to acquire control of us to first negotiate with us. We believe that the benefits of increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging takeover or acquisition proposals because negotiation of these proposals could result in an improvement of their terms.

Authorized but Unissued Stock. We have shares of common stock and preferred stock available for future issuance, in some cases, without stockholder approval. We may issue these additional shares for a variety of corporate purposes, including public offerings to raise additional capital, corporate acquisitions, stock dividends on our capital stock or equity compensation plans.

The existence of unissued and unreserved common stock and preferred stock may enable our board of directors to issue shares to persons friendly to current management or to issue preferred stock with terms that could render more difficult or discourage a third-party attempt to obtain control of us, thereby protecting the continuity of our management. In addition, if we issue preferred stock, the issuance could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation.

Business Combinations. As a Delaware corporation, we are subject to Section 203 of the Delaware General Corporation Law, an anti-takeover law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years after the date the person becomes an interested stockholder, unless the business combination or the transaction in which the person becomes an interested stockholder is approved in a prescribed manner. Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to an interested stockholder. An interested stockholder includes a person who, together with affiliates and associates, owns, or did own within three years before the person was determined to be an interested stockholder, 15% or more of a corporation's voting stock. The existence of this provision generally will have an anti-takeover effect for transactions not approved in advance by the board of directors, including discouraging attempts that might result in a premium over the market price of our common stock.

Vacancies on the Board of Directors. Our by-laws provide that any vacancy on the board of directors, however occurring, including a vacancy resulting from an enlargement of the board, may be filled only by the vote of a majority of the directors then in office. This limitation on the filling of vacancies could have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from acquiring, control of us.

Notice Periods for Stockholder Meetings. Our by-laws provide that for business to be brought by a stockholder before an annual meeting of stockholders, the stockholder must give written notice to the corporation not less than 90 nor more than 120 days prior to the one year anniversary of the date of the annual meeting of stockholders of the previous year; provided, however, that in the event that the annual meeting of stockholders is called for a date that is not within 30 days before or after such anniversary date, notice by the stockholder must be received not later than the close of business on the tenth day following the day on which the corporation's notice of the date of the meeting is first given or made to the stockholders or disclosed to the general public, whichever occurs first.

Special Meeting of Stockholders. Our by-laws provide that any action required or permitted to be taken by our stockholders at an annual meeting or special meeting of stockholders may only be taken if it is properly brought before the meeting.

DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Our charter contains provisions to indemnify our directors and officers to the maximum extent permitted by Delaware law. We believe that indemnification under our charter covers at least negligence on the part of an indemnified person. Our charter permits us to advance expenses incurred by an indemnified person in connection with the defense of any action or proceeding arising out of the person's status or service as our director, officer, employee or other agent upon an undertaking by the person to repay those advances if it is ultimately determined that the person is not entitled to indemnification.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the small business issuer pursuant to the foregoing provisions, or otherwise, the small business issuer has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable.

WHERE YOU CAN FIND MORE INFORMATION

We are a reporting company and file annual, quarterly and special reports, and other information with the Securities and Exchange Commission. Copies of the reports and other information may be read and copied at the SEC's Public Reference Room at 100 F Street NE, Washington, D.C. 20549. You can request copies of such documents by writing to the SEC and paying a fee for the copying cost. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains a web site at http://www.sec.gov that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC.

This prospectus is part of a registration statement on Form S-1 that we filed with the SEC. Certain information in the registration statement has been omitted from this prospectus in accordance with the rules and regulations of the SEC. We have also filed exhibits and schedules with the registration statement that are excluded from this prospectus. For further information you may:

- read a copy of the registration statement, including the exhibits and schedules, without charge at the SEC's Public Reference Room; or

- obtain a copy from the SEC upon payment of the fees prescribed by the SEC.

LEGAL MATTERS

The validity of the securities being offered by this prospectus has been passed upon for us by Foley Hoag LLP, Boston, Massachusetts.

EXPERTS

Stowe & Degon LLC have audited our financial statements as of December 31, 2008 and 2007 and for the years then ended. The financial statements referred to above are included in this prospectus with reliance upon the independent registered public accounting firm's opinion based on its expertise in accounting and auditing.

FINANCIAL STATEMENTS

INDEX TO FINANCIAL STATEMENTS FOR NOVELOS THERAPEUTICS, INC.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors
Novelos Therapeutics, Inc.
Newton, Massachusetts

We have audited the accompanying balance sheets of Novelos Therapeutics, Inc. as of December 31, 2008 and 2007 and the related statements of operations, redeemable preferred stock and stockholders' deficiency, and cash flows for the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Novelos Therapeutics, Inc. as of December 31, 2008 and 2007 and the results of its operations, changes in stockholders' deficiency, and cash flows for the years then ended in conformity with accounting principles generally accepted in the United States.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has incurred continuing losses in the development of its products and has a stockholders' deficiency at December 31, 2008. These factors raise substantial doubt about the Company's ability to continue as a going concern. Management's plans in this regard are described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ Stowe & Degon LLC

Westborough, Massachusetts
March 17, 2009

NOVELOS THERAPEUTICS, INC.
BALANCE SHEETS

	June 30, 2009 (unaudited)	December 31, 2008 (audited)	December 31, 2007 (audited)
ASSETS			
CURRENT ASSETS:			
Cash and equivalents	$ 4,493,124	$ 1,262,452	$ 9,741,518
Restricted cash	—	—	1,184,702
Prepaid expenses and other current assets	85,668	129,785	133,281
Total current assets	4,578,792	1,392,237	11,059,501
FIXED ASSETS, NET	60,936	58,451	32,809
DEPOSITS	15,350	15,350	15,350
TOTAL ASSETS	$ 4,655,078	$ 1,466,038	$ 11,107,660
LIABILITIES, REDEEMABLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIENCY			
CURRENT LIABILITIES:			
Accounts payable and accrued liabilities	$ 2,696,475	$ 4,653,912	$ 6,372,478
Accrued compensation	125,369	240,639	349,412
Accrued dividends	1,669,884	1,689,322	337,500
Derivative liability	3,374,257	—	—
Deferred revenue – current	33,333	33,333	—
Total current liabilities	7,899,318	6,617,206	7,059,390
DEFERRED REVENUE – NONCURRENT	416,667	433,333	—
COMMITMENTS AND CONTINGENCIES			
REDEEMABLE PREFERRED STOCK:			
Series B convertible preferred stock, $0.00001 par value; 400 shares designated; 300 shares issued and outstanding at December 31, 2007	—	—	9,918,666
Series D convertible preferred stock, $0.00001 par value; 420 shares designated; 413.5 shares issued and outstanding at December 31, 2008 (liquidation preference $22,070,562 at December 31, 2008)	—	13,904,100	—
Series E convertible preferred stock, $0.00001 par value; 735 shares designated; 645.442875 shares issued and outstanding at June 30, 2009 (Note 6) (liquidation preference $33,401,669 at June 30, 2009)	21,672,675	—	—
Total redeemable preferred stock	21,672,675	13,904,100	9,918,666
STOCKHOLDERS' DEFICIENCY:			
Preferred Stock, $0.00001 par value; 7,000 shares authorized: Series C 8% cumulative convertible preferred stock; shares issued and outstanding: 237 at June 30, 2009; 272 at December 31, 2008 and 2007 (liquidation preference $3,384,360 at June 30, 2009)	—	—	—
Common stock, $0.00001 par value; 150,000,000 shares authorized; 44,743,611, 43,975,656 and 39,260,272 shares issued and outstanding at June 30, 2009, December 31, 2008 and December 31, 2007, respectively	448	440	392
Additional paid-in capital	35,134,549	40,204,112	37,370,959
Accumulated deficit	(60,468,579)	(59,693,153)	(43,241,747)
Total stockholders' deficiency	(25,333,582)	(19,488,601)	(5,870,396)
TOTAL LIABILITIES, REDEEMABLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIENCY	$ 4,655,078	$ 1,466,038	$ 11,107,660

See notes to financial statements.

NOVELOS THERAPEUTICS, INC.
STATEMENTS OF OPERATIONS

	Six Months Ended June 30,		Year Ended December 31,	
	2009 (unaudited)	**2008** (unaudited)	**2008** (audited)	**2007** (audited)
REVENUES	$ 63,281	$ 54,009	$ 125,968	$ —
COSTS AND EXPENSES:				
Research and development	3,372,290	10,957,683	14,526,619	17,427,804
General and administrative	982,943	979,772	2,190,366	2,866,383
Total costs and expenses	4,355,233	11,937,455	16,716,985	20,294,187
LOSS FROM OPERATIONS	(4,291,952)	(11,883,446)	(16,591,017)	(20,294,187)
OTHER INCOME (EXPENSE):				
Interest income	1,013	101,212	130,611	729,922
Loss on derivatives	(2,383,590)	—	—	—
Miscellaneous	4,732	4,500	9,000	7,130
Total other income (expense)	(2,377,845)	105,712	139,611	737,052
NET LOSS	(6,669,797)	(11,777,734)	(16,451,406)	(19,557,135)
PREFERRED STOCK DIVIDENDS	(1,652,906)	(933,248)	(2,092,102)	(1,161,120)
PREFERRED STOCK DEEMED DIVIDENDS	(714,031)	(4,417,315)	(4,417,315)	(9,003,083)
NET LOSS ATTRIBUTABLE TO COMMON STOCKHOLDERS	$ (9,036,734)	$ (17,128,297)	$ (22,960,823)	$ (29,721,338)
BASIC AND DILUTED NET LOSS ATTRIBUTABLE TO COMMON STOCKHOLDERS PER COMMON SHARE	$ (0.21)	$ (0.44)	$ (0.56)	$ (0.76)
SHARES USED IN COMPUTING BASIC AND DILUTED NET LOSS ATTRIBUTABLE TO COMMON STOCKHOLDERS PER COMMON SHARE	44,059,624	39,351,432	41,100,883	39,247,532

See notes to financial statements.

NOVELOS THERAPEUTICS, INC.
STATEMENTS OF REDEEMABLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIENCY

	REDEEMABLE PREFERRED STOCK Series B, D and E Convertible Preferred Stock		Common Stock		Series A Cumulative Convertible Preferred Stock		Series C Cumulative Convertible Preferred Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity (Deficiency)
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount			
BALANCE AT JANUARY 1, 2007	—	$ —	39,235,272	$ 392	3,264	$ —	—	$ —	$34,294,154	$ (23,684,612)	$ 10,609,934
Exercise of stock options	—	—	25,000	—	—	—	—	—	250	—	250
Compensation expense associated with options issued to employees	—	—	—	—	—	—	—	—	343,233	—	343,233
Compensation expense associated with options issued to non-employees	—	—	—	—	—	—	—	—	160,057	—	160,057
Issuance of Series B redeemable convertible preferred stock and warrants, net of issuance costs of $1,306,949	300	17,743,051	—	—	—	—	—	—	3,774,385	—	3,774,385
Beneficial conversion feature on Series B redeemable convertible preferred stock	—	(7,824,385)	—	—	—	—	—	—	7,824,385	—	7,824,385
Deemed dividend related to the accretion of beneficial conversion feature on Series B redeemable convertible preferred stock	—	—	—	—	—	—	—	—	(7,824,385)	—	(7,824,385)
Retirement of Series A preferred stock and issuance of Series C convertible preferred stock	—	—	—	—	(3,264)	—	272	—	—	—	—
Issuance of common stock purchase warrants in connection with exchange of preferred stock	—	—	—	—	—	—	—	—	1,138,698	—	1,138,698
Deemed dividend recorded in connection with exchange of Series A for Series C convertible preferred stock	—	—	—	—	—	—	—	—	(1,178,698)	—	(1,178,698)
Dividends paid on preferred stock	—	—	—	—	—	—	—	—	(823,620)	—	(823,620)
Dividends accrued on preferred stock	—	—	—	—	—	—	—	—	(337,500)	—	(337,500)
Net loss	—	—	—	—	—	—	—	—	—	(19,557,135)	(19,557,135)
BALANCE AT DECEMBER 31, 2007	300	9,918,666	39,260,272	392	—	—	272	—	37,370,959	(43,241,747)	(5,870,396)
Exercise of stock options	—	—	100,000	1	—	—	—	—	999	—	1,000
Compensation expense associated with options issued to employees	—	—	—	—	—	—	—	—	395,194	—	395,194
Compensation expense associated with options issued to non-employees	—	—	—	—	—	—	—	—	58,133	—	58,133
Issuance of common stock in a private placement			4,615,384	47					2,986,691	—	2,986,738
Issuance of Series D redeemable convertible preferred stock and warrants, net of issuance costs of $205,328	113.5	4,167,080	—	—	—	—	—	—	1,302,592	—	1,302,592
Adjustment to record the carrying value of Series D redeemable convertible preferred stock at market value on the date of sale	—	(181,646)	—	—	—	—	—	—	181,646	—	181,646
Fair value of reduction in conversion and exercise price of Series B redeemable convertible preferred stock and warrants	—	3,876,912	—	—	—	—	—	—	722,049	—	722,049
Accretion of deemed dividend associated with the reduction											

of conversion and exercise prices on Series B redeemable convertible preferred stock and warrants	—	(3,876,912)	—	—	—	—	—	—	(722,049)	—	(722,049)
Dividends paid on preferred stock	—	—	—	—	—	—	—	—	(402,780)	—	(402,780)
Dividends accrued on preferred stock	—	—	—	—	—	—	—	—	(1,689,322)	—	(1,689,322)
Net loss	—	—	—	—	—	—	—	—	—	(16,451,406)	(16,451,406)
BALANCE AT DECEMBER 31, 2008	413.5	13,904,100	43,975,656	440	—	—	272	—	40,204,112	(59,693,153)	(19,488,601)
Conversion of Series C convertible preferred stock and accumulated dividends	—	—	761,843	8	—	—	(35)	—	75,192	—	75,200
Cashless exercise of warrants	—	—	6,112	—	—	—	—	—	8,277	—	8,277
Compensation expense associated with options issued to employees	—	—	—	—	—	—	—	—	228,866	—	228,866
Compensation expense associated with options issued to non-employees	—	—	—	—	—	—	—	—	131,224	—	131,224
Issuance of Series E redeemable convertible preferred stock and warrants, net of issuance costs of $795,469	200	6,297,323	—	—	—	—	—	—	2,907,208	—	2,907,208
Adjustment to record the carrying value of Series E redeemable convertible preferred stock at market value on the date of sale	—	(125,892)	—	—	—	—	—	—	125,892	—	125,892
Issuance of Series E redeemable convertible preferred stock in payment of accumulated dividends	31.942875	1,597,144	—	—	—	—	—	—	—	—	—
Fair value of the extension of expiration date of warrants	—	—	—	—	—	—	—	—	839,923	—	839,923
Accretion of deemed dividend associated with the extension of expiration date of warrants	—	—	—	—	—	—	—	—	(839,923)	—	(839,923)
Dividends accrued on preferred stock	—	—	—	—	—	—	—	—	(1,652,906)	—	(1,652,906)
Change in accounting principle									(6,893,316)	5,894,371	(998,945)
Net loss	—	—	—	—	—	—	—	—	—	(6,669,797)	(6,669,797)
BALANCE AT JUNE 30, 2009 (UNAUDITED)	645.442875	$ 21,672,675	44,743,611	$ 448	—	$ —	237	$ —	$ 35,134,549	$ (60,468,579)	$ (25,333,582)

See notes to financial statements.

NOVELOS THERAPEUTICS, INC.
STATEMENTS OF CASH FLOWS

	Six Months Ended June 30,		Year Ended December 31,	
	2009 (unaudited)	2008 (unaudited)	2008 (audited)	2007 (audited)
CASH FLOWS FROM OPERATING ACTIVITIES:				
Net loss	$ (6,669,797)	$ (11,777,734)	$ (16,451,406)	$ (19,557,135)
Adjustments to reconcile net loss to cash used in operating activities:				
Depreciation and amortization	15,515	7,748	16,889	15,367
Loss on disposal of fixed assets	—	6,472	6,472	—
Stock-based compensation	360,089	257,035	453,327	503,290
Loss on derivatives	2,383,590	—	—	—
Changes in:				
Prepaid expenses and other current assets	44,117	(42,247)	3,496	161,714
Accounts payable and accrued liabilities	(1,957,437)	1,132,560	(1,718,566)	5,284,437
Accrued compensation	(115,270)	(179,914)	(108,773)	124,028
Deferred revenue	(16,666)	483,833	466,666	—
Cash used in operating activities	(5,955,859)	(10,112,247)	(17,331,895)	(13,468,299)
CASH FLOWS FROM INVESTING ACTIVITIES:				
Purchases of fixed assets	(18,000)	(20,251)	(49,003)	(24,366)
Change in restricted cash	—	1,184,702	1,184,702	470,549
Deposits	—	—	—	(4,475)
Cash provided by (used in) investing activities	(18,000)	1,164,451	1,135,699	441,708
CASH FLOWS FROM FINANCING ACTIVITIES:				
Proceeds from issuance of common stock, net	—	—	2,986,738	—
Proceeds from issuance of Series B convertible preferred stock and warrants, net	—	—	—	13,693,051
Proceeds from issuance of Series D convertible preferred stock and warrants, net	—	5,469,672	5,469,672	—
Proceeds from issuance of Series E convertible preferred stock and warrants, net	9,204,531	—	—	—
Dividends paid to preferred stockholders	—	(740,280)	(740,280)	(823,620)
Payment to preferred stockholders in connection with exchange of shares (1)	—	—	—	(40,000)
Proceeds from exercise of stock option	—	1,000	1,000	250
Cash provided by financing activities	9,204,531	4,730,392	7,717,130	12,829,681
INCREASE (DECREASE) IN CASH AND EQUIVALENTS	3,230,672	(4,217,404)	(8,479,066)	(196,910)
CASH AND EQUIVALENTS AT BEGINNING OF YEAR	1,262,452	9,741,518	9,741,518	9,938,428
CASH AND EQUIVALENTS AT END OF PERIOD	$ 4,493,124	$ 5,524,114	$ 1,262,452	$ 9,741,518
SUPPLEMENTAL DISCLOSURES OF NON-CASH INVESTING AND FINANCING ACTIVITIES				
Deemed dividends on preferred stock	$ 714,031	$ 4,417,315	$ 4,417,315	$ 8,963,083
Dividends accrued but not paid to preferred stockholders	$ 1,451,325	$ 530,468	$ 1,689,322	$ 337,500
Dividends paid to preferred shareholders in shares of Series E preferred stock	$ 1,597,144	$ —	$ —	$ —
Preferred stock dividends converted into shares of common stock	$ 75,200	$ —	$ —	$ —
Relative fair value of warrants issued to preferred stockholders	$ 2,907,208	$ 1,302,592	$ 1,302,592	$ 3,774,385
Exchange of Series B for Series D preferred stock	$ —	$ 9,918,666	$ 9,918,666	$ —
Exchange of Series D for Series E preferred stock	$ 13,904,100	$ —	$ —	$ —
Issuance of warrants to placement agents	$ —	$ —	$ —	$ 768,621

(1) Included as a deemed dividend in the Statement of Operations.

See notes to financial statements.

NOVELOS THERAPEUTICS, INC.
NOTES TO FINANCIAL STATEMENTS

(ALL INFORMATION AS OF AND FOR THE SIX MONTHS ENDED JUNE 30, 2009 AND 2008, AND SUBSEQUENT TO JUNE 30, 2009, IS UNAUDITED)

1. NATURE OF BUSINESS, ORGANIZATION AND GOING CONCERN

Novelos Therapeutics, Inc. (''Novelos'' or the ''Company'') is a drug development company focused on the development of therapeutics for the treatment of cancer and hepatitis. Novelos owns exclusive worldwide intellectual property rights (excluding Russia and other states of the former Soviet Union (the "Russian Territory"), but including Estonia, Latvia and Lithuania) related to certain clinical compounds and other pre-clinical compounds based on oxidized glutathione.

The Company is subject to a number of risks similar to those of other companies in an early stage of development. Principal among these risks are dependence on key individuals, competition from substitute products and larger companies, the successful development and marketing of its products in a highly regulated environment and the need to obtain additional financing necessary to fund future operations.

These financial statements have been prepared on the basis that the Company will continue as a going concern. The Company is devoting substantially all of its efforts toward the research and development of its products and has incurred operating losses since inception. The process of developing products will continue to require significant research and development, non-clinical testing, clinical trials and regulatory approval. The Company expects that these activities, together with general and administrative costs, will result in continuing operating losses for the foreseeable future. The primary endpoint of the Company's Phase 3 clinical trial for NOV-002 in non-small cell lung cancer is increased median overall survival, to be measured following the occurrence of 725 events (deaths). The Company anticipates that the results from this trial will be available in early 2010. On August 25, 2009 the Company entered into a Securities Purchase Agreement (the "August 2009 Purchase Agremeent") with Purdue Pharma L.P. ("Purdue") contemplating the issuance and sale at two or more closings of up to 13,636,364 shares of Novelos common stock and warrants to purchase approximately 4,772,728 shares of Novelos common stock for an aggregate purchase price of $9,000,000. The Company believes that the addition of all $9,000,000 to available funds at June 30, 2009 would allow it to operate beyond the conclusion of the Phase 3 trial and into the third quarter of 2010. However, at the initial closing under the August 2009 Purchase Agreement, the Company was able to sell to Purdue only 5,303,030 shares of common stock and a warrant to purchase 1,856,062 shares of common stock for gross proceeds of $3,500,000, because the Company did not have enough authorized but unissued (and unreserved) shares of common stock to complete the sale of the remaining common stock and warrants covered by the August 2009 Purchase Agreement. Having undertaken an expanded development program for NOV-002 contemplated under the August 2009 Purchase Agreement (described below), the $3,500,000 in proceeds received at the initial closing does not provide the Company with sufficient funds to operate through the anticipated conclusion of the Phase 3 trial in early 2010. In order to be able to obtain the results of the Phase 3 trial, the Company must raise additional funds by completing the sale of securities to Purdue under the August 2009 Purchase Agreement or by other means. The Company has scheduled a special meeting of shareholders, to be held in the fourth quarter of 2009, at which it will seek approval of an increase in its authorized common stock.

The August 2009 Purchase Agreement required the Company to adopt an expanded development and regulatory plan for NOV-002 (the "Plan") which contemplates substantial expenditures through mid 2010 in addition to clinical development expenditures previously contemplated for the completion of the Phase 3 trial. The Company is required to use proceeds from the sale of securities under the August 2009 Purchase Agreement for the expenditures identified in the Plan. The Company has begun to incur obligations in accordance with the Plan, on the assumption that it will be able to consummate the sale of the remaining securities to Purdue and obtain the balance of the $9,000,000 in purchase price in a timely manner. If the Company is unable to consummate such sale, in a timely manner or at all, it will need to obtain other sources of funds to complete the Phase 3 trial and may need to scale back administrative activities, terminate other clinical development and programs or cease operation entirely.

The completion of the Phase 3 clinical trial is likely to significantly affect the Company's ability to have adequate funds to finance continued operations. The Company believes that favorable results of the Phase 3 trial will allow it to raise additional capital to fund continued operations and clinical development programs beyond 2010, although unfavorable results might preclude such financing and require the Company to sharply curtail or cease operations. Adverse market conditions may affect the Company's ability to raise funds even with favorable results of the Phase 3 clinical trial.

The accompanying unaudited financial statements of the Company have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP") for interim financial information and with the instructions to Form 10-Q. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements. In the opinion of management, all adjustments (consisting of normal recurring accruals) considered necessary for the fair presentation of these financial statements have been included. The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Interim results are not necessarily indicative of results to be expected for other quarterly periods or for the entire year ending December 31, 2009.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The accompanying financial statements reflect the application of certain accounting policies, as described in this note and elsewhere in the accompanying notes to the financial statements.

Use of Estimates — The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses and disclosure of contingent assets and liabilities. Management's estimates are based primarily on relevant historical experience and other assumptions that management believes to be reasonable. Estimates include those for unbilled contract service fees such as amounts due to clinical research organizations, clinical investigators and contract manufacturers. Actual results could differ from those estimates.

Cash Equivalents — The Company considers all short-term investments purchased with original maturities of three months or less to be cash equivalents.

Restricted Cash — Restricted cash at December 31, 2007 consisted of cash pledged as security on a letter of credit agreement with a bank. The letter of credit expired in 2008.

Fixed Assets — Property and equipment are stated at cost. Depreciation on property and equipment is provided using the straight-line method over the estimated useful lives of the assets, which range from three to five years. Leasehold improvements are depreciated over the lesser of the estimated useful lives of the assets or the remaining lease term.

Impairment of Long-Lived Assets — Whenever events or circumstances change, the Company assesses whether there has been an impairment in the value of long-lived assets by determining whether projected undiscounted cash flows generated by the applicable asset exceed its net book value as of the assessment date. There were no impairments of the Company's assets at the end of each period presented.

Stock-based Compensation — The Company applies the fair-value recognition provisions of Statement of Financial Accounting Standards (SFAS) No. 123(R), *Share-Based Payment* (SFAS 123R) in accounting for stock-based compensation. The Company accounts for share-based payments granted to non-employees in accordance with Emerging Issues Task Force (EITF) No. 96-18, *Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services*. See Note 7 for a further description of the Company's accounting policies related to stock-based compensation.

Revenue Recognition — Revenue is recognized when persuasive evidence of an arrangement exists, the price is fixed and determinable, delivery has occurred, and there is reasonable assurance of collection. Upfront payments received in connection with technology license or collaboration agreements are recognized over the estimated term of the related agreement. Milestone payments received in connection with license or collaboration agreements are recognized upon completion of the applicable milestones, provided that there are no further delivery obligations associated with the milestone. Royalty revenue will be recognized upon the receipt of royalty reports from third parties.

Research and Development — Research and development costs are expensed as incurred.

Income Taxes — The Company uses the liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on temporary differences between the financial statement and tax basis of assets and liabilities and net operating loss and credit carryforwards using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. Valuation allowances are established when it is more likely than not that some portion of the deferred tax assets will not be realized.

The Company adopted FIN 48, *Accounting for Uncertainty in Income Taxes – an Interpretation of FASB Statement No. 109*, on the first day of its 2007 fiscal year. The implementation had no effect on the Company's reported financial position or results of operations in the year ended December 31, 2007.

Comprehensive Income (Loss) — The Company had no components of comprehensive income other than net loss in all of the periods presented.

Fair Value of Financial Instruments — SFAS No. 107*, Disclosures About Fair Value of Financial Instruments,* requires disclosure of the fair value of certain financial instruments. The Company's financial instruments consist of cash equivalents, accounts payable, accrued expenses and redeemable preferred stock. The estimated fair value of the redeemable preferred stock, determined on an as-converted basis, was $14,950,000 and $8,850,000 at December 31, 2008 and 2007, respectively. The estimated fair value of the remaining financial instruments approximates their carrying value due to their short-term nature.

Concentration of Credit Risk — Financial instruments that subject the Company to credit risk consist of cash and equivalents on deposit with financial institutions. The Company's excess cash is invested on an overnight basis in securities that are fully collateralized. When funds are not invested overnight, cash is on deposit in a non-interest-bearing transaction account that is fully covered by FDIC deposit insurance until December 31, 2009.

New Accounting Pronouncements — In June 2008 the Emerging Issues Task Force reached a consensus on Issue No. 07-5 *Determining Whether an Instrument (or Embedded Feature) is Indexed to an Entity's Own Stock* (EITF 07-5). EITF 07-5 establishes a framework for determining whether certain freestanding and embedded instruments are indexed to a company's own stock for purposes of evaluation of the accounting for such instruments under existing accounting literature. EITF 07-5 is effective for fiscal years beginning after December 15, 2008. The Company generally does not use derivative instruments to hedge exposures to cash flow or market risks; however, certain warrants to purchase common stock that do not meet the requirements for classification as equity in accordance with Emerging Issues Task Force Issue No. 00-19 (EITF 00-19), *Accounting for Derivative Financial Instruments Indexed to, and Potentially Settled in, a Company's Own Stock* and EITF No. 07-5, *Determining Whether an Instrument (or Embedded Feature) is Indexed to an Entity's Own Stock* (EITF 07-5), are classified as liabilities. In such instances, net-cash settlement is assumed for financial reporting purposes, even when the terms of the underlying contracts do not provide for a net-cash settlement. These warrants are considered derivative instruments since the agreements contain "down-round" provisions whereby the number of shares for which the options are exercisable and/or the exercise price of the warrants is subject to change in the event of certain issuances of stock at prices below the then-effective exercise price of the warrants. The number of such warrants was 14,003,319 at January 1, 2009 and 15,094,857 at June 30, 2009. The primary underlying risk exposure pertaining to the warrants is the change in fair value of the underlying common stock. Such financial instruments are initially recorded at fair value, or relative fair value when issued with other instruments, with subsequent changes in fair value charged (credited) to operations as a gain or loss on derivatives in each reporting period. If these instruments subsequently meet the requirements for equity classification under EITF 00-19 and EITF 07-5, the Company reclassifies the fair value to equity. At June 30, 2009, these warrants represent the only outstanding derivative instruments issued or held by the Company.

In December 2007 the Emerging Issues Task Force reached a consensus on Issue No. 07-1 *Accounting for Collaborative Arrangements* (EITF 07-1). EITF 07-1 defines collaborative arrangements and establishes reporting requirements for transactions between participants in a collaborative arrangement and between participants in the arrangement and third parties. EITF 07-1 is effective for fiscal years beginning after December 15, 2008. This standard had no effect on the Company's reported financial position or results of operations in the six months ended June 30, 2009.

In June 2007, the Emerging Issues Task Force reached a consensus on Issue No. 07-3 *Accounting for Nonrefundable Advance Payments for Goods or Services Received for Use in Future Research and Development Activities* (EITF 07-3). EITF 07-3 requires that nonrefundable advance payments for goods or services used or rendered for future research and development activities be deferred and capitalized and subsequently recognized as an expense as the goods are delivered or the related services are performed. EITF 07-3 is effective for fiscal years beginning after December 15, 2007 and interim periods within those fiscal years with no earlier application permitted. This standard had no effect on the Company's reported financial position or results of operations in the year ended December 31, 2008.

In February 2007, the Financial Accounting Standards Board (FASB) issued SFAS No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities – Including an Amendment to FASB Statement No. 115* (SFAS 159). SFAS 159 permits entities to choose to measure many financial instruments and certain other items at fair value. SFAS 159 is effective for financial statements issued for fiscal years beginning after November 15, 2007. This standard had no effect on the Company's reported financial position or results of operations in the year ended December 31, 2008.

Change in Accounting Principle — Effective January 1, 2009, the Company adopted EITF 07-5, which establishes a framework for determining whether certain freestanding and embedded instruments are indexed to a company's own stock for purposes of evaluation of the accounting for such instruments under existing accounting literature. As a result of the adoption of EITF 07-5, certain warrants that were previously determined to be indexed to the Company's common stock upon issuance were determined not to be indexed to the Company's common stock because they include 'down-round' anti-dilution provisions. The fair value of the warrants at the dates of issuance totaling $6,893,000 was initially recorded as a component of additional paid-in capital. Upon adoption of EITF 07-5, in the first quarter of 2009, the Company recorded a decrease to the opening balance of additional-paid-in capital of $6,893,000 and recorded a decrease to accumulated deficit totaling $5,894,000, representing the decrease in the fair value of the warrants from the date of issuance to December 31, 2008. The increase in fair value of the warrants of $2,384,000 during the six months ended June 30, 2009 has been included as a component of other income in the accompanying statement of operations for the respective period. The fair value of the warrants at June 30, 2009 of $3,374,000 is included as a current liability in the accompanying balance sheet as of that date.

3. FIXED ASSETS

Fixed assets consisted of the following at December 31:

	2008	2007
Office and computer equipment	$ 73,261	$ 51,652
Computer software	25,896	7,896
Leasehold improvements	4,095	4,095
Total fixed assets	103,252	63,643
Less accumulated depreciation and amortization	(44,801)	(30,834)
Fixed assets, net	$ 58,451	$ 32,809

4. FAIR VALUES OF ASSETS AND LIABILITIES

In accordance with SFAS No. 157, *Fair Value Measurements*, the Company groups its financial assets and financial liabilities generally measured at fair value in three levels, based on the markets in which the assets and liabilities are traded and the reliability of the assumptions used to determine fair value.

- Level 1: Input prices quoted in an active market for identical financial assets or liabilities.
- Level 2: Inputs other than prices quoted in Level 1, such as prices quoted for similar financial assets and liabilities in active markets, prices for identical assets and liabilities in markets that are not active or other inputs that are observable or can be corroborated by observable market data.
- Level 3: Input prices quoted that are significant to the fair value of the financial assets or liabilities which are not observable nor supported by an active market.

Assets and liabilities measured at fair value on a recurring basis are summarized below:

	June 30, 2009			
	Level 1	Level 2	Level 3	Fair Value
Liabilities:				
Warrants	$ -	$ 3,374,257	$ -	$ 3,374,257

The fair value of warrants has been estimated based on the closing price of the common stock at the valuation date using the Black-Scholes option pricing model with assumed volatility of 80%, terms ranging from nine to twenty months and discount rates ranging from 0.56% to 0.84%.

5. COLLABORATION AGREEMENTS

2007 Collaboration Agreement with Lee's Pharmaceutical (HK) Ltd.

In December 2007 the Company entered into a Collaboration Agreement with Lee's Pharmaceutical (HK) Ltd. ("Lee's Pharm"). Pursuant to this agreement, Lee's Pharm obtained an exclusive license to develop, manufacture and commercialize NOV-002 and NOV-205 in China, Hong Kong, Taiwan and Macau (the "Chinese Territory"). Under the terms of the agreement the Company received a license fee of $500,000 in March 2008 and is entitled to receive up to $1,700,000 in future milestone payments upon the completion of development and marketing milestones by Lee's Pharm. This initial $500,000 payment received is being amortized over the estimated term of this agreement, 15 years. Accordingly, $33,334 of license revenue was recognized in the year ended December 31, 2008 and $16,667 license revenue was recognized in the six months ended June 30, 2009.

The Company will receive royalty payments of 20-25% of net sales of NOV-002 in the Chinese Territory and will receive royalty payments of 12-15% of net sales of NOV-205 in the Chinese Territory. Lee's Pharm will also reimburse the Company for the manufacturing cost of pharmaceutical products provided to Lee's Pharm in connection with the agreement. Lee's Pharm has committed to spend a minimum amount on development in the first four years of the agreement. The agreement expires upon the expiration of the last patent covering any of the licensed products, or twelve years from the date of the first commercial sale in China, whichever occurs later.

2009 Collaboration Agreement with Mundipharma

On February 11, 2009, Novelos entered into a collaboration agreement (the "Collaboration Agreement") with Mundipharma International Corporation Limited ("Mundipharma") to develop, manufacture and commercialize, on an exclusive basis, Licensed Products (as defined in the Collaboration Agreement), which includes the Company's lead compound, NOV-002, in Europe (other than the Russian Territory), Asia (other than the Chinese Territory) and Australia (collectively referred to as the "Mundipharma Territory"). Mundipharma is an independent associated company of Purdue Pharma L.P. ("Purdue").

Under the Collaboration Agreement, Mundipharma received an exclusive license to develop, manufacture, market, sell or otherwise distribute the Licensed Products and improvements thereon in the Mundipharma Territory. Novelos is responsible for the cost and execution of development, regulatory submissions and commercialization of NOV-002 outside the Mundipharma Territory, and Mundipharma is responsible for the cost and execution of certain development activities, all regulatory submissions and all commercialization within the Mundipharma Territory. In the unlikely event that Mundipharma is required to conduct an additional Phase 3 clinical trial in first-line advanced-stage non-small cell lung cancer in order to gain regulatory approval in Europe, Mundipharma will be entitled to recover the full cost of such trial by reducing milestone, fixed sales-based payments and royalty payments to Novelos by up to 50% of the payments owed until Mundipharma recovers the full costs of such trial. In order for Mundipharma or Novelos to access the other party's data or intellectual property related to Independent Trials (as defined in the Collaboration Agreement), the accessing party must pay the sponsoring party 50% of the cost of such trial.

The launch of Licensed Products, including initiation of regulatory and pricing approvals, and subsequent commercial efforts to market and sell Licensed Products in each country in the Mundipharma Territory, will be determined by Mundipharma based on its assessment of the commercial viability of the Licensed Products, the regulatory environment and other factors. Novelos has no assurance that it will receive any amount of the launch payments, fixed sales-based payments or royalties described below.

Mundipharma will pay Novelos $2.5 million upon the launch of NOV-002 in each country, up to a maximum of $25 million. In addition, Mundipharma will make fixed sales-based payments up to an aggregate of $60 million upon the achievement of certain annual sales levels payable once the annual net sales exceed the specified thresholds. Mundipharma will also pay as royalties to Novelos, during the term of the Collaboration Agreement, a double-digit percentage on net sales of Licensed Products, based upon a four-tier royalty schedule, in countries within the Mundipharma Territory where Novelos held patents on the licensed technology as of the effective date of the agreement. Royalties in countries in the Mundipharma Territory where Novelos does not hold patents as of the effective date will be paid at 50% of the royalty rates in countries where patents are held. The royalties will be calculated based on the incremental net sales in the respective royalty tiers and shall be due on net sales in each country in the Territory where patents are held until the last patent expires in the respective country. In countries in the Munidpharma Territory where Novelos does not hold patents as of the effective date of the Collaboration Agreement, royalties will be due until the earlier of 15 years from the date of the Collaboration Agreement or the introduction of a generic in the respective country resulting in a 20% drop in Mundipharma's market share in such country.

For countries in which patents are held, the Collaboration Agreement expires on a country-by-country basis within the MundipharmaTerritory on the earlier of (1) expiration of the last applicable Novelos patent within the country or (2) the determination that any patents within the country are invalid, obvious or otherwise unenforceable. For countries in which no patents are held, the Collaboration Agreement expires the earlier of 15 years from its effective date or upon generic product competition in the country resulting in a 20% drop in Mundipharma's market share. Novelos may terminate the Collaboration Agreement upon breach or default by Mundipharma. Mundipharma may terminate the Collaboration Agreement upon breach or default, filing of voluntary or involuntary bankruptcy by Novelos, the termination of certain agreements with companies associated with the originators of the licensed technology, or 30-day notice for no reason. If any regulatory approval within the Territory is suspended as a result of issues related to the safety of the Licensed Products, then Mundipharma's obligations under the Collaboration Agreement will be suspended until the regulatory approval is reinstated. If that reinstatement does not occur within 12 months of the suspension, then Mundipharma may terminate the Collaboration Agreement.

Concurrent with the execution of the Collaboration Agreement, Novelos completed a private placement of preferred stock and warrants to Purdue, an independent associated company of Mundipharma. See 'Series E Preferred Stock Private Placement' below.

6. STOCKHOLDERS' EQUITY (DEFICIENCY)

2005 Issuance of Common Stock –

From May 27, 2005 through August 9, 2005, the Company completed a private offering of securities, exempt from registration under the Securities Act of 1933, in which it sold to accredited investors 4,000,000 shares of common stock and issued 2,000,000 common stock warrants (initially exercisable at $2.25 per share) for net cash proceeds of approximately $3,715,000 (net of cash issuance costs of approximately $735,000) and conversion of debt and accrued interest of $550,000. In connection with the private placement, the Company also issued 125,000 shares of common stock to placement agents with a value of approximately $156,000 and issued 340,000 common stock warrants to placement agents and finders at an initial exercise price of $2.00 per share. Pursuant to anti-dilution provisions, the number of warrants issued to investors, placement agents and finders as well as the exercise price of the warrants have changed. On August 11, 2008, warrants to purchase 6,923,028 shares of preferred stock at an exercise price of $.65 per share expired unexercised. These warrants were issued in 2005 to the purchasers of shares of common stock. At June 30, 2009 and December 31, 2008, warrants to purchase 1,025,313 and 1,046,143 shares, respectively, of common stock at an exercise price of $0.65 per share held by placement agents remain outstanding.

Issuance of Series A Preferred Stock –

On September 30, 2005 and October 3, 2005, the Company sold, in a private placement, a total of 3,200 shares of its Series A 8% Cumulative Convertible Preferred Stock ("Series A Preferred Stock") with a stated value of $1,000 per share and 969,696 common stock warrants for net proceeds of $2,864,000, net of issuance costs of $336,000. See "Issuance of Series C Preferred Stock" below for a description of the exchange of Series A Preferred Stock that occurred in May 2007. The warrants issued in connection with the sale of Series A Preferred Stock had anti-dilution provisions that provided for adjustments to the exercise price upon the occurrence of certain events. Pursuant to these anti-dilution provisions the exercise price of the warrants was subsequently adjusted and as of December 31, 2008, the warrants are exercisable at $0.65 per share.

2006 Issuance of Common Stock –

On March 7, 2006, the Company completed a private offering of securities, exempt from registration under the Securities Act of 1933, in which it sold to accredited investors 11,154,073 shares of common stock at $1.35 per share and warrants to purchase 8,365,542 shares of its common stock exercisable at $2.50 per share for net cash proceeds of approximately $13,847,000 (net of issuance costs of approximately $1,211,000, including placement agent fees of approximately $1,054,000). In connection with the private placement, the Company issued 669,244 common stock warrants (exercisable at $2.50 per share) to the placement agents. Pursuant to anti-dilution provisions, as a result of subsequent financings, as of December 31, 2008, the number of shares of common stock issuable upon exercise of the warrants issued to investors and placement agents was 11,267,480 and the exercise price was $2.00 per share. On February 11, 2009, the number and exercise price of the warrants was adjusted further. See "Series E Preferred Stock Private Placement" below.

Issuance of Series B Preferred Stock –

On May 2, 2007, pursuant to a securities purchase agreement with accredited investors dated April 12, 2007 (the "Purchase Agreement"), as amended May 2, 2007, the Company sold 300 shares of a newly created series of preferred stock, designated "Series B Convertible Preferred Stock", with a stated value of $50,000 per share (the "Series B Preferred Stock"), and issued warrants (the "Series B Warrants") to purchase 7,500,000 shares of common stock for an aggregate purchase price of $15,000,000. The Series B Preferred Stock was initially convertible into 15,000,000 shares of common stock at $1.00 per share. During 2008, the Company declared and paid $675,000 in dividends to Series B stockholders ($2,250 per share). During 2007, the Company declared dividends totaling $900,000 ($3,000 per share) to Series B preferred stockholders; $562,500 ($1,875 per share) of that amount was paid in cash during 2007. See "Issuance of Series D Preferred Stock" below for a description of the exchange of Series B Preferred Stock that occurred on April 11, 2008.

The common stock purchase warrants issued to these purchasers are exercisable for an aggregate of 7,500,000 shares of the Company's common stock at an initial exercise price of $1.25 per share and had an initial expiration date of May 2012. 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 volume weighted average price ("VWAP"), as defined in the warrant, of the Company's 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 will no longer be exercisable and will be converted into a right to receive $.01 per share. See "Issuance of Series D Preferred Stock" and "Series E Preferred Stock Private Placement" below for descriptions of amendments to the Series B Warrants that were executed on April 11, 2008 and February 11, 2009.

The Company and these purchasers entered into a registration rights agreement in connection with the closing of the sale of the Series B Preferred Stock. The registration rights agreement was subsequently amended on April 11, 2008 and on February 11, 2009. The agreement, as amended, requires the Company to use its best efforts to keep a registration statement covering 12,000,000 shares of common stock continuously effective under the Securities Act until the earlier of the date when all securities covered by the registration statement have been sold or the second anniversary of the closing. In the event the Company does not fulfill the requirements of the registration rights agreement, the Company is required to pay to the investors liquidated damages equal to 1.5% per month of the aggregate purchase price of the preferred stock and warrants until the requirements have been met. The 12,000,000 shares of common stock were included on a registration statement that became effective on April 28, 2008. The second post-effective amendment was declared effective on April 27, 2009. As of June 30, 2009, and through the date of this filing, the Company has not concluded that it is probable that damages will become due; therefore, no accrual for damages has been recorded

Upon the closing of the Series B Preferred Stock financing the Company issued to placement agents warrants to purchase a total of 900,000 shares of common stock with the same terms as the warrants issued to the investors.

Issuance of Series C Preferred Stock –

As a condition to closing of the sale of Series B Preferred Stock described above, the Company entered into an agreement to exchange and consent with the holders of the Series A Preferred Stock providing for the exchange of all 3,264 shares of Series A Preferred Stock for 272 shares of a new Series C convertible preferred stock ("Series C Preferred Stock"), junior to the Series B Preferred Stock as set forth in the Series C Preferred Stock Certificate of Designations. The Series C Preferred Stock was initially convertible at $1.00 per share into 3,264,000 shares of common stock. As part of the exchange, the Company issued to the holders of the Series A Preferred Stock warrants to purchase 1,333,333 shares of common stock expiring on May 2, 2012 at a price of $1.25 per share; paid them a cash allowance to defray expenses totaling $40,000; and paid them an amount of cash equal to unpaid dividends accumulated through the date of the exchange. The fair value of the warrants at the date of issuance calculated using the Black-Scholes valuation method was $1,138,698. The valuation was based on estimated volatility of 80%, a discount rate of 4.55%, and a term of 5 years. The total of the fair value of the warrants and the cash payment of $40,000 has been reflected as a deemed dividend to preferred stockholders in the statement of operations. Pursuant to the exchange agreement, the holders of the Series C preferred stock retained registration and related rights substantially identical to the rights that they had as holders of the Series A Preferred Stock.

Terms of the Series C Preferred Stock

The Series C Preferred Stock had an annual dividend rate of 8% until October 1, 2008 and thereafter has an annual dividend rate of 20%. The dividends are payable quarterly. Such dividends shall be paid only after all outstanding dividends on the Series D Preferred Stock (with respect to the current fiscal year and all prior fiscal years) shall have been paid to the holders of the Series D Preferred Stock. During 2008, the Company paid $65,280 in dividends on Series C Preferred Stock ($240 per share). During 2007, the Company declared and paid dividends totaling $173,355 ($637 per share) to Series C preferred stockholders. As of December 31, 2008, there were accumulated unpaid dividends of $294,000 ($1,080 per share) on Series C Preferred Stock. The conversion price is subject to adjustment for stock dividends, stock splits or similar capital reorganizations. The Series C Preferred Stock does not have voting rights and is redeemable only at the option of the Company upon 30 days' notice at a 20% premium plus any accrued but unpaid dividends. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company's affairs, the Series C Preferred stock will be treated as senior to Novelos common stock. After all required payments are made to holders of Series D Preferred Stock, the Series C Preferred stockholders will be entitled to receive first, $12,000 per share and all accrued and unpaid dividends. If, upon any winding up of the Company's affairs, the Company's remaining assets available to pay the holders of Series C preferred stock are not sufficient to permit the payment in full, then all of the Company's assets will be distributed to the holders of Series C preferred stock (and any remaining holders of Series D preferred stock as may be required) on a pro rata basis.

Adjustment of Series C Preferred Stock Conversion Price

In connection with the sale of Series D Preferred Stock described below, the conversion price of the Series C Preferred Stock was reduced to $0.65 and became convertible into 5,021,537 shares of common stock.

Conversions of Series C Preferred Stock

During the six month period ended June 30, 2009, 35 shares of Series C Preferred Stock, having an aggregate stated value of $420,000, and accumulated dividends thereon were converted into 761,843 shares of the Company's common stock, leaving 237 shares of Series C Preferred Stock outstanding which are convertible into 4,375,384 shares of common stock.

Issuance of Series D Preferred Stock –

On April 11, 2008, pursuant to a securities purchase agreement with accredited investors dated March 26, 2008, as amended on April 9, 2008, the Company sold 113.5 shares of Series D Convertible Preferred Stock, par value $0.00001 per share (the "Series D Preferred Stock") and issued warrants (the "Series D Warrants") to purchase 4,365,381 shares of its common stock for an aggregate purchase price of $5,675,000 (the "Series D Financing").

Exchange of Series B Preferred Stock for Series D Preferred Stock

In connection with the closing of the Series D Financing, the holders of the Company's 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 were substantially the same as the Series B Preferred Stock. However, the conversion price of the Series D Preferred Stock was $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 the Company's failure to register for resale 100% of the shares of common stock underlying the Series B Preferred Stock and warrants. As a result, during 2008, the Company recorded a reduction of general and administrative expenses of $395,000 relating to the reversal of estimated liquidated damages that had been accrued through the date of the closing. The purchase agreement covering the issuance and sale of the Series D Preferred Stock provided that the dividends that accrued on the shares of Series B Preferred Stock from April 1, 2008 through the date of exchange were to be paid, out of legally available funds, on June 30, 2008. As of June 30, September 30, and December 31, 2008 the Company did not have legally available funds for the payment of dividends under Delaware corporate law and therefore was not able to pay any dividends accrued in respect of the preferred stock totaling $1,396,000 ($3,375 per share).

Terms of Series D Preferred Stock

The shares of Series D Preferred Stock were convertible into shares of 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 the Company's 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 were entitled to vote on all matters on which the holders of common stock are entitled to vote. Each holder of Series D Preferred Stock is entitled to a number of votes equal to the number of shares of common stock that would have been 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 had 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 the Company's common stock at the Company's 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 the Company's affairs. The Series D preferred stockholders will be entitled to receive first, $50,000 per share and all accrued and unpaid dividends. Subject to any distributions that are required for any other series of preferred stock, the Series D preferred stockholders 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 the Company's 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 the Company sells, leases or otherwise transfers substantially all of its assets, consummates a business combination in which it is not the surviving corporation or, if it is 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 the Company's 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 holders of any other series of preferred or common stock in a distribution of the remaining assets.

For as long as any shares of Series D Preferred Stock remain outstanding, the Company is prohibited from (i) paying dividends to its common stockholders, (ii) amending its 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 of its assets or intellectual property or entering into a merger or consolidation with another company unless the Company is 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 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.

Board and Observer Rights

Pursuant to the Series D Preferred Stock 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"), retained the right to designate one member to the Company's 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 "Series D Lead Investors") have the right to designate one 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. This right lasts until such time as the Series D Lead Investors no longer hold at least one-third of the Series D Preferred Stock issued to them at closing. The rights to designate a board member and board observer have not yet been exercised.

Common Stock Purchase Warrants

The Series D Warrants are exercisable for an aggregate of 4,365,381 shares of the Company's common stock at an exercise price of $0.65 per share and expire in April 2013. If after the six-month anniversary of the date of issuance of the warrants 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 the Company withhold, upon exercise, shares having a fair market value equal to the applicable aggregate exercise price. In the event of such a cashless exercise, the Company would receive no proceeds from the sale of 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.

See "Series E Preferred Stock Private Placement" for a description of an amendment to Series D Warrants that was executed on February 11, 2009.

Registration Rights Agreement

The Company entered into a registration rights agreement with these purchasers that requires the Company 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. The Company is required to use its 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 the Company fails to file the registration statement within the timeframe specified by the Registration Rights Agreement, the investors are entitled to receive 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 the Company files the delinquent registration statement. The Company is 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. The registration statement was required to be filed by October 18, 2008. As of December 31, 2008, the registration statement had not been filed. However, the Company had not concluded that it was probable that damages would become due. Therefore, no accrual for damages has been recorded. In connection with a financing that was completed on February 11, 2009, the damages from October 18, 2008 through February 11, 2009 under the Registration Rights Agreement were waived and the Registration Rights Agreement was replaced with an agreement requiring that a registration statement be filed in August 2009. See "Series E Preferred Stock Private Placement" below.

Placement Agent Fee and Other Costs

Following the closing of the Series D Financing, the Company paid Rodman & Renshaw LLC a cash fee of $100,000 and paid other closing costs of approximately $105,000.

Amendments to Prior Warrants and Registration Rights Agreement

At the closing, the Company entered into an amendment to the registration rights agreement dated May 2, 2007 with the holders of its Series B Preferred Stock to revise the definition of registrable securities under the agreement to include only the 12,000,000 shares of common stock that were included on a prior registration statement and to extend the registration obligations under the agreement by one year. On April 28, 2008, the amended registration statement covering the 12,000,000 shares of common stock required to be registered was declared effective. Accordingly, the Company has not accrued any liquidated damages at December 31, 2008 in connection with its registration obligation under the agreement. If the Company is unable to maintain the effectiveness of that registration statement through April 11, 2010, the Company may become liable for liquidated damages in future periods.

In addition, in connection with the closing, the warrants to purchase common stock issued in connection with the sale of Series B Preferred Stock were amended to conform the terms of those warrants to the terms of the warrants issued in the Series D Financing.

Exchange of Series D Preferred Stock for Series E Preferred Stock

On February 11, 2009 all outstanding shares of Series D Preferred Stock and accumulated dividends thereon were exchanged for shares of Series E preferred stock. See "Series E Preferred Stock Private Placement" below.

Accounting Treatment of Series B and Series D Preferred Stock

The terms of the Series B Preferred Stock contained provisions that allow the holders to elect to receive a liquidation payment in circumstances that are beyond the Company's control. Therefore the shares have been recorded as redeemable preferred stock outside of permanent equity in the balance sheet. The shares were initially recorded at their estimated as-converted fair value of $19,050,000, net of cash issuance costs of $1,306,949. That value was further reduced by the intrinsic value of the beneficial conversion feature of $7,824,385. As a result of the effective adjustment to the conversion price of preferred stock and the adjustment to the exercise price of warrants that occurred in connection with the exchange of all outstanding shares of Series B Preferred Stock for shares of Series D Preferred Stock, in the quarter ended June 30, 2008, a deemed dividend of $4,598,961 was recorded. This amount represents the incremental fair value on the date of the exchange resulting from the adjustment to the conversion price of the Series B Preferred Stock from $1.00 to $0.65 ($3,876,912) and the exercise price of the warrants from $1.25 to $0.65 ($722,049). These amounts were recorded as both debits and credits to temporary and permanent equity, respectively, in the year ended December 31, 2008. The incremental fair value of the adjustment to the conversion price of the Series B Preferred Stock was determined based on the market value of the additional 8,076,900 shares of common stock that became issuable following the exchange. The incremental fair value of the modification to the warrants was the difference between the fair value of the warrants immediately before and after modification using the Black-Scholes option pricing model. The fair value of the warrants prior to modification was calculated based on an estimated volatility of 80%, a discount rate of 2.34% and a term of 4.08 years. The fair value of the warrants after the modification was calculated based on an estimated volatility of 80%, a discount rate of 2.57% and a term of 5 years.

Since the terms of the Series D Preferred Stock also contained provisions that may require redemption in circumstances that are beyond the Company's control, the shares have been recorded as redeemable preferred stock outside of permanent equity in the balance sheet as of December 31, 2008. The gross proceeds of $5,675,000 received in conjunction with the Series D Financing were allocated on a relative fair-value basis between the Series D Preferred Stock and the warrants. The relative fair-value of the Series D Warrants of $1,302,592 was recorded as additional paid-in capital while the relative fair value of the Series D Preferred Stock of $4,372,408 was recorded as temporary equity. The carrying value of the Series D Preferred Stock was immediately adjusted to its fair value of $4,190,762 based on the fair value of the as-converted common stock. The difference of $181,646 was recorded as a reduction to the deemed dividend described above. Issuance costs related to the Series D Financing of $205,328 were netted against temporary equity. The total carrying value of temporary equity at December 31, 2008 of $13,904,100 consists of the $9,918,666 carrying value of the Series B Preferred Stock on the date of exchange plus the $3,985,434 carrying value of the Series D Preferred Stock issued in the Series D Financing. The fair value of the Series D warrants was calculated using the Black-Scholes pricing model with a volatility of 80%, a discount rate of 2.57% and a term of 5 years.

Since the Company had concluded it is not probable that an event will occur which would allow the holders of Series D Preferred Stock to elect to receive a liquidation payment, the carrying value will not be adjusted until the time that such event becomes probable. The liquidation preference (redemption value) is $22,070,562 at December 31, 2008.

2008 Issuance of Common Stock –

On August 15, 2008, the Company sold 4,615,384 shares of its common stock to two related accredited investors for gross proceeds of approximately $3,000,000, pursuant to a securities purchase agreement dated August 14, 2008.

The Common Stock Purchase Agreement provides that on and after six months following the closing, if there is not an available exemption from Rule 144 under the Securities Act to permit the sale of the common stock by the purchasers, then the Company will use its best efforts to file a registration statement (the "Registration Statement") under the Securities Act with the SEC covering the resale of the common stock. It further provides that the Company will use its best efforts to maintain the effectiveness of the Registration Statement until one year from closing or until all the common stock has been sold or transferred, whichever occurs first.

This purchase agreement also provides that if, prior to the public announcement of the conclusion of the Company's NOV-002 Phase 3 clinical trial in non-small cell lung cancer, the Company completes a Subsequent Equity Financing (as defined therein) and the holders of shares of Series D Preferred Stock receive, as consideration for their consent to such a financing, a reduction in the effective conversion price or exercise price, as applicable, of the shares of Series D Preferred Stock or common stock purchase warrants issued in connection therewith, or additional shares of common stock, then the purchasers will be entitled to receive additional shares of common stock based on the formula detailed in the purchase agreement.

Series E Preferred Stock Private Placement –

Sale of Series E Preferred Stock to Purdue

Concurrently with the execution of the Collaboration Agreement, Novelos sold to Purdue 200 shares of a newly created series of the Company's preferred stock, designated "Series E Convertible Preferred Stock", par value $0.00001 per share (the "Series E Preferred Stock"), and a warrant (the "Series E Warrant") to purchase 9,230,769 shares of Novelos common stock for an aggregate purchase price of $10,000,000 (the "Series E Financing"). Pursuant to the related securities purchase agreement with Purdue (the "Purchase Agreement"), Purdue has the right to designate one 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. This right lasts until such time as Purdue no longer holds at least one-half of the Series E Preferred Stock issued to them at closing. In connection with the August 2009 Purchase Agreement, Purdue obtained the right to designate a member of the Board in lieu of designating a Board observer. See Note 11. Purdue has the right to participate in future equity financings in proportion to their pro rata ownership of common and preferred stock.

The Series E Warrant is exercisable for an aggregate of 9,230,769 shares of Novelos common stock at an exercise price of $0.65 per share. The warrant expires on December 31, 2015. The warrant exercise price and/or the common stock issuable pursuant to such warrant are subject to adjustment 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.

Exchange of Series D Preferred Stock for Series E Preferred Stock

The Company also entered into an exchange agreement with the holders (the "Series D Investors") of the Company's Series D Convertible Preferred Stock (the "Series D Preferred Stock") under which all 413.5 outstanding shares of Series D Preferred Stock and accumulated but unpaid dividends thereon were exchanged for 445.442875 shares of Series E Preferred Stock. The rights and preferences of the Series E Preferred Stock are substantially the same as the Series D Preferred Stock. In addition, the holders of Series D Preferred Stock waived liquidated damages through the date of the exchange as a result of the Company's failure to file a registration statement covering the shares of common stock underlying the Series D Preferred Stock and warrants not otherwise registered. In connection with the execution of this exchange agreement, warrants held by the Series D Investors to purchase a total of 11,865,381 shares of the Company's common stock were amended to extend the expiration of the warrants to December 31, 2015 (from April 11, 2013) and to remove the forced exercise provision. Also, the registration rights agreement dated May 2, 2007 with the Series D Investors was amended to revise the definition of registrable securities under the agreement to refer to Series E Preferred Stock.

Terms of Series E Preferred Stock

The shares of Series E Preferred Stock have a stated value of $50,000 per share and are convertible into shares of common stock any time after issuance at the option of the holder at $0.65 per share of common stock for an aggregate of 49,649,446 shares of common stock. If there is an effective registration statement covering the shares of common stock underlying the Series E Preferred Stock and the VWAP, as defined in the Series E Certificate of Designations, of Novelos common stock exceeds $2.00 for 20 consecutive trading days, then the outstanding Series E 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 Series E 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, in shares of Series E Preferred Stock or in registered shares of Novelos common stock at the Company's option, subject to certain conditions.

For as long as any shares of Series E Preferred Stock remain outstanding, Novelos is prohibited from (i) paying dividends to its common stockholders, (ii) amending its certificate of incorporation or by-laws, (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 E Preferred Stock (except for certain exempted issuances), (iv) increasing the number of shares of Series E Preferred Stock or issuing any additional shares of Series E Preferred Stock, (v) selling or otherwise disposing of all or substantially all of its assets (or in the case of licensing, any material intellectual property) or entering into a merger or consolidation with another company unless Novelos is the surviving corporation, the Series E Preferred Stock remains outstanding and there are no changes to the rights and preferences of the Series E Preferred Stock, (vi) redeeming or repurchasing any capital stock other than the Series E Preferred Stock, (vii) incurring any new debt for borrowed money in excess of $500,000 and (viii) changing the number of the Company's directors.

Registration Rights Agreement

Simultaneous with the execution of the Purchase Agreement, the Company entered into a registration rights agreement (the "Registration Rights Agreement") with Purdue and the Series D Investors. The Registration Rights Agreement requires Novelos to file with the Securities and Exchange Commission no later than 5 business days following the six-month anniversary of the execution of the Purchase Agreement (the "Filing Deadline"), 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 E Preferred Stock (excluding 12,000,000 shares of common stock issuable upon conversion of the Series E Preferred Stock issued in exchange for shares of outstanding Series D Preferred Stock as described below that are included on a prior registration statement), (ii) 9,230,769 shares of common stock issuable upon exercise of the warrants issued to Purdue and (iii) 11,865,381 shares of common stock issuable upon exercise of warrants held by the Series D Investors. Novelos will be required to use its best efforts to have the registration statement declared effective and to 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. Purdue and the Series D Investors have consented to extend the Filing Deadline to September 15, 2009. In the event that the registration statement is not filed by that date, the Company may be required to pay to Purdue and the Series D 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 E Preferred Stock and warrants until the delinquent registration statement is filed. The use of the registration statement may be suspended for not more than 15 consecutive days or for a total of not more than 30 days in any 12 month period. The Registration Rights Agreement replaces a prior agreement dated April 11, 2008 between Novelos and the Series D Investors.

Advisor Fees

Ferghana Partners, Inc. ("Ferghana"), a New York consulting firm, received a cash fee for their services in connection with the negotiation and execution of the Collaboration Agreement equal to $700,000 (or seven percent (7%) of the gross proceeds to the Company resulting from the sale of Series E Preferred Stock and Common Stock Purchase Warrants to Purdue in connection with the Collaboration Agreement). Ferghana will also receive cash fees equal to six percent (6%) of all payments to Novelos by Mundipharma under the Collaboration Agreement other than royalties on net sales.

Accounting Treatment of Series E Financing

The terms of the Series E Preferred Stock contain provisions that may require redemption in circumstances that are beyond the Company's control. Therefore, the shares have been recorded as redeemable preferred stock outside of permanent equity in the balance sheet as of June 30, 2009. The gross proceeds of $10,000,000 received in conjunction with the Series E Financing were allocated on a relative fair value basis between the Series E Preferred Stock and the warrants. The relative fair value of the warrants issued to investors of $2,907,000 was recorded as additional paid-in capital while the relative fair value of the Series E Preferred Stock of $7,093,000 was recorded as temporary equity. The carrying value of the Series E Preferred Stock was immediately adjusted to its fair value of $7,385,000 based on the fair value of the as-converted common stock. The difference of $292,000 represents a beneficial conversion feature and was recorded as a deemed dividend to preferred stockholders. Issuance costs related to the Series E Financing of $795,000 were netted against temporary equity. The Series E Preferred Stock that was issued in payment of dividends was initially recorded in temporary equity at the value of the dividends that had accrued totaling $1,597,000. This amount was then adjusted to the fair value of $1,179,000 based on the fair value of the as-converted common stock. The difference of $418,000 was recorded as an offset to the deemed dividends recorded. The Series E Preferred Stock that was issued in exchange for outstanding shares of Series D Preferred Stock was recorded at $13,904,000, the carrying value of the shares of Series D Preferred Stock as of the date of the exchange.

As a result of the modification to the warrants to extend their expiration by approximately 32 months that occurred in connection with the exchange of all outstanding shares of Series D Preferred Stock for shares of Series E Preferred Stock, in the six months ended June 30, 2009, a deemed dividend of $840,000 was recorded. This amount represents the incremental fair value of the warrants immediately before and after modification using the Black-Scholes option pricing model, volatility of 80%, discount rates of 1.54% and 2.17% and the remaining terms.

Since the Company has concluded it is not probable that an event will occur which would allow the holders of Series E Preferred Stock to elect to receive a liquidation payment, the carrying value will not be adjusted until the time that such event becomes probable. The liquidation preference (redemption value) is $33,401,669 at June 30, 2009.

Common Stock Warrants — The following table summarizes information with regard to outstanding warrants issued in connection with equity and debt financings as of June 30, 2009.

Offering	Outstanding (as adjusted)	Exercise Price (as adjusted)	Expiration Date
2005 Bridge Loans	720,000	$ 0.625	April 1, 2010
2005 Issuance of Common Stock - Placement agents and finders	1,025,313	$ 0.65	August 9, 2010
Series A Preferred Stock (1):			
Purchasers – September 30, 2005 closing	909,090	$ 0.65	September 30, 2010
Purchasers – October 3, 2005 closing	60,606	$ 0.65	October 3, 2010
2006 Issuance of Common Stock – Purchasers and placement agents (2)	12,379,848	$ 1.82	March 7, 2011
Series B Preferred Stock:			
Purchasers	7,500,000	$ 0.65	December 31, 2015
Placement agents	900,000	$ 1.25	May 2, 2012
Series C Exchange	1,333,333	$ 1.25	May 2, 2012
Series D Preferred Stock	4,365,381	$ 0.65	December 31, 2015
Series E Preferred Stock	9,230,769	$ 0.65	December 31, 2015
Total	38,424,340		

(1) Concurrently with the closing of the Series B Preferred Stock financing, all shares of Series A Preferred Stock were exchanged for shares of Series C Preferred Stock.

(2) See Note 11 for a description of an exchange of these warrants occurring in August 2009 and for a description of an adjustment that was made to the number and exercise price of the warrants in connection with a financing occurring in August 2009.

On August 11, 2008, warrants to purchase 6,923,028 shares of common stock expired unexercised.

During the six month period ended June 30, 2009, the Company issued 6,112 shares of common stock in connection with the cashless exercise of warrants to purchase 20,830 shares of the Company's common stock. The warrants had an expiration date of August 9, 2010 and an exercise price of $0.65 per share.

Other than those described above, there have been no warrant exercises through June 30, 2009. See Note 11 for descriptions of warrant exercises which occurred subsequent to June 30, 2009.

Reserved Shares — The following shares were reserved for future issuance upon exercise of stock options or warrants or conversion of preferred stock as of the dates indicated:

	June 30, 2009	December 31, 2008	December 31, 2007
2000 Stock Option Plan	56,047	56,047	73,873
2006 Stock Incentive Plan	4,770,000	4,770,000	2,220,000
Options issued outside of formalized plans	2,453,778	2,453,778	2,553,778
Warrants	38,424,340	28,102,033	28,973,047(1)
Preferred stock	56,593,880	36,829,192	22,014,000(1)
Total shares reserved for future issuance	102,298,045	72,211,050	55,834,698

(1) The amount of reserved shares includes shares reserved in excess of the number currently exercisable or convertible in accordance with the related financing agreements.

Authorized Shares — There is a total of 150,000,000 shares of common stock authorized for issuance.

7. STOCK-BASED COMPENSATION

The Company's stock-based compensation plans are summarized below:

2000 Stock Option Plan. The Company's stock option plan established in August 2000 (the "2000 Plan") provides for grants of options to purchase up to 73,873 shares of common stock. Grants may be in the form of incentive stock options or nonqualified options. The board of directors determines exercise prices and vesting periods on the date of grant. Options generally vest annually over three years and expire on the tenth anniversary of the grant date. No options were granted or exercised under the 2000 Plan during 2007 or 2008. During 2008, options to purchase 17,826 shares of common stock were canceled.

2006 Stock Incentive Plan. On May 1, 2006, the Company's board of directors adopted, and on July 21, 2006 the Company's stockholders approved, the 2006 Stock Incentive Plan (the "2006 Plan"). A total of 5,000,000 shares of common stock are reserved for issuance under the 2006 Plan for grants of incentive or nonqualified stock options, rights to purchase restricted and unrestricted shares of common stock, stock appreciation rights and performance share grants. A committee of the board of directors determines exercise prices, vesting periods and any performance requirements on the date of grant, subject to the provisions of the 2006 Plan. Options are granted at or above the fair market value of the common stock at the grant date and expire on the tenth anniversary of the grant date. Vesting periods are generally two to three years. In the years ended December 31, 2008 and 2007, stock options for the purchase of 2,560,000 and 1,380,000 shares of common stock, respectively, were granted under the 2006 Plan. During 2008, options to purchase 10,000 shares of common stock were canceled. There have been no exercises under the 2006 Plan. As of December 31, 2008, 230,000 remain available for grant under the 2006 Plan. Options granted pursuant to the 2006 Stock Incentive Plan generally will become fully vested upon a termination event occurring within one year following a change in control, as defined. A termination event is defined as either termination of employment or services other than for cause or constructive termination of employees or consultants resulting from a significant reduction in either the nature or scope of duties and responsibilities, a reduction in compensation or a required relocation.

Other Stock Option Activity. During 2005 and 2004, the Company issued a total of 2,653,778 stock options to employees, directors and consultants outside of any formalized plan. These options are exercisable within a ten-year period from the date of grant, and vest at various intervals with all options being fully vested within two to three years of the grant date. The options are not transferable except by will or domestic relations order. The option price per share is not less than the fair market value of the shares on the date of the grant. During the years ended December 31, 2008 and 2007, options to purchase 100,000 and 25,000 shares, respectively, were exercised.

Accounting for Stock-Based Compensation

The Company accounts for employee stock-based compensation in accordance with SFAS 123R. SFAS 123R requires all share-based payments to employees, including grants of employee stock options, to be recognized in the financial statements based on their fair values. The Company accounts for non-employee stock-based compensation in accordance with Emerging Issues Task Force (EITF) No. 96-18, *Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services*. EITF 96-18 requires that companies recognize compensation expense based on the estimated fair value of options granted to non-employees over their vesting period, which is generally the period during which services are rendered by such non-employees.

The following table summarizes amounts charged to expense for stock-based compensation related to employee and director stock option grants and stock-based compensation recorded in connection with stock options and restricted stock awards granted to non-employee consultants:

	Six months ended June 30,		Year Ended December 31,	
	2009	2008	2008	2007
Employee and director stock option grants:				
Research and development	$ 71,546	$ 114,284	$ 159,519	$ 163,558
General and administrative	157,319	116,552	235,675	179,675
	228,865	230,836	395,194	343,233
Non-employee consultants stock option grants and restricted stock awards:				
Research and development	78,833	9,315	24,131	17,233
General and administrative	52,391	16,884	34,002	142,824
	131,224	26,199	58,133	160,057
Total stock-based compensation	$ 360,089	$ 257,035	$ 453,327	$ 503,290

On May 13, 2008, the Company entered into a separation agreement with M. Taylor Burtis, a former officer of the Company, that provided, among other terms that all 166,667 unvested options held by Ms. Burtis as of May 13, 2008 were immediately vested and that she will have until December 31, 2009 to exercise the total 350,000 options held by her, at which time any unexercised options will expire. The 2008 stock-based compensation for research and development employees included in the table above includes incremental stock-based compensation expense of $23,700 that was recorded in connection with the modification of the option terms.

In January 2009, the Company modified the terms of options to purchase 40,000 shares of common stock held by two employees to vest all unvested options and to extend the expiration dates of the options. The modification was made in connection with the termination of the two employees to reduce costs. During the six months ended June 30, 2009, incremental stock-based compensation expense of $8,000 was recorded in connection with the modification of the option terms.

Determining Fair Value

Valuation and amortization method. The fair value of each stock award is estimated on the grant date using the Black-Scholes option-pricing model. The estimated fair value of employee stock options is amortized to expense using the straight-line method over the vesting period.

Volatility. Volatility is determined based on the Company's estimate of fluctuation in its common stock price and its review of comparable public company data due to the limited amount of time that the Company's common stock has been publicly traded.

Risk-free interest rate. The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant commensurate with the expected term assumption.

Expected term. The expected term of stock options granted is based on the Company's estimate of when options will be exercised in the future as there have been limited stock option exercises to date. The expected term is generally applied to one group as a whole as the Company does not expect substantially different exercise or post-vesting termination behavior within its employee population.

Forfeitures. As required by SFAS 123R, the Company records stock-based compensation expense only for those awards that are expected to vest. SFAS 123R requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The term "forfeitures" is distinct from "cancellations" or "expirations" and represents only the unvested portion of the surrendered option. The Company has applied an annual forfeiture rate of 0% to all unvested options as of December 31, 2008 as the Company has experienced very few forfeitures to date and believes that there is insufficient history to develop an accurate estimate of future forfeitures. This analysis will be re-evaluated semi-annually and the forfeiture rate will be adjusted as necessary. Ultimately, the actual expense recognized over the vesting period will be for only those shares that vest.

The following table summarizes weighted average values and assumptions used for options granted to employees, directors and consultants in the periods indicated:

	Six Months Ended June 30,	Year Ended December 31,	
	2008	2008	2007
Volatility	80%	80%	80%
Weighted-average volatility	80%	80%	80%
Risk-free interest rate	3.14%	1.50%-3.28%	3.57%-4.66%
Expected life (years)	5	5	5
Dividend	0%	0%	0%
Weighted-average exercise price	$ 0.60	$ 0.46	$ 0.57
Weighted-average grant-date fair value	$ 0.39	$ 0.30	$ 0.38

There were no stock option grants during the six months ended June 30, 2009.

Stock Option Activity

A summary of stock option activity under the 2000 Plan, the 2006 Plan and outside of any formalized plan is as follows:

	Options Outstanding	Weighted Average Exercise Price	Weighted Average Remaining Contracted Term in Years	Aggregate Intrinsic Value
Outstanding at January 1, 2007	3,492,651	$ 0.70	8.4	$1,773,777
Options granted	1,380,000	$ 0.57		
Options exercised	(25,000)	$ 0.01		
Outstanding at December 31, 2007	4,847,651	$ 0.67	8.1	$1,308,961
Options granted	2,560,000	$ 0.46		
Options exercised	(100,000)	$ 0.01		
Options canceled	(27,826)	$ 2.23		
Outstanding at December 31, 2008	7,279,825	$ 0.60	7.9	$ 989,718
Options granted	—			
Options exercised	—			
Outstanding at June 30, 2009	7,279,825	$ 0.60	7.3	$3,333,459
Exercisable at June 30, 2009	4,566,482	$ 0.68	6.2	$2,161,115

The aggregate intrinsic value of options outstanding is calculated based on the positive difference between the closing market price of the Company's common stock at the end of the respective period and the exercise price of the underlying options. During the years ended December 31, 2008 and 2007, the total intrinsic value of options exercised was $74,000 and $18,750, respectively, and the total amount of cash received from exercise of these options was $1,000 and $250, respectively.

As of June 30, 2009 there was approximately $690,000 of total unrecognized compensation cost related to unvested stock-based compensation arrangements. Of this total amount, 33%, 44% and 23% are expected to be recognized during 2009, 2010 and 2011, respectively. The Company expects 2,713,343 in unvested options to vest in the future. The weighted-average grant-date fair value of vested and unvested options outstanding at June 30, 2009 was $0.41 and $0.30, respectively.

As of December 31, 2008 there was approximately $886,000 of total unrecognized compensation cost related to unvested share-based compensation arrangements. Of this total amount, 53%, 31% and 16% is expected to be recognized during 2009, 2010 and 2011, respectively. The Company expects 3,086,678 in unvested options to vest in the future. The weighted average grant-date fair value of vested and unvested options outstanding at December 31, 2008 was $0.41 and $0.31, respectively. The weighted average grant-date fair value of vested and unvested options outstanding at December 31, 2007 was $0.39 and $0.41, respectively. The fair value of options that vested during the years ended December 31, 2008 and 2007 was approximately $500,000 and $701,000, respectively.

8. INCOME TAXES

The Company's deferred tax assets consisted of the following at December 31:

	2008	2007
Net operating loss carryforwards	$ 7,128,000	$ 4,547,000
Research and development expenses	13,681,000	9,718,000
Tax credits	1,311,000	941,000
Capital loss carryforward	340,000	403,000
Stock-based compensation	449,000	375,000
Gross deferred tax asset	22,909,000	15,984,000
Valuation allowance	(22,909,000)	(15,984,000)
Net deferred tax asset	$ —	$ —

As of December 31, 2008, the Company had federal and state net operating loss carryforwards of approximately $19,018,000 and $12,367,000 respectively, which expire through 2028. In addition, the Company has federal and state research and development and investment tax credits of approximately $1,077,000 and $356,000, respectively which expire through 2028. The amount of net operating loss carryforwards which may be utilized annually in future periods may be limited pursuant to Section 382 of the Internal Revenue Code as a result of substantial changes in the Company's ownership that have occurred or that may occur in the future.

The capital loss carryforward relates to the loss recorded in prior years for Novelos' investment in an unrelated company.

Because of the Company's limited operating history, continuing losses and uncertainty associated with the utilization of the net operating loss carryforwards in the future, management has provided a 100% allowance against the Company's gross deferred tax asset. In both 2008 and 2007, the increase in the valuation allowance represents the principal difference between the Company's total statutory tax rate of approximately 40% and its effective rate of 0%.

In June 2006, the Financial Accounting Standards Board ("FASB") issued FASB Interpretation No. 48, *Accounting for Uncertainty in Income Taxes-an Interpretation of FASB Statement No. 109* (FIN No. 48), which clarifies the accounting for uncertainty in income tax positions. This interpretation requires that the Company recognize in its financial statements the impact of a tax position if that position is more likely than not of being sustained on audit, based on the technical merits of the position. The provisions of FIN No. 48 are effective for financial statements for fiscal years beginning after December 15, 2006. The cumulative effect of applying the provisions of FIN No. 48, if any, are required to be recorded as an adjustment to accumulated deficit. The Company adopted FIN No. 48 effective January 1, 2007. Upon adoption, there was no adjustment to accumulated deficit as the Company had no unrecognized tax benefits, and there were no accrued interest amounts or penalties related to tax contingencies.

The Company did not have any unrecognized tax benefits or accrued interest and penalties at any time during the years ended December 31, 2008 and 2007, and does not anticipate having any unrecognized tax benefits over the next twelve months. The Company is subject to audit by the IRS for tax periods commencing January 1, 2005.

9. NET LOSS PER SHARE

Basic net loss per share is computed by dividing net loss attributable to common stockholders by the weighted average number of shares of common stock outstanding during the period. Diluted net loss per share is computed by dividing net loss attributable to common stockholders by the weighted average number of shares of common stock and the dilutive potential common stock equivalents then outstanding. Potential common stock equivalents consist of stock options, warrants and convertible preferred stock and accumulated dividends. Since the Company has a net loss for all periods presented, the inclusion of common stock equivalents in the computation would be antidilutive. Accordingly, basic and diluted net loss per share are the same.

The following potentially dilutive securities have been excluded from the computation of diluted net loss per share since their inclusion would be antidilutive:

	Six Months Ended June 30,		Year Ended December 31,	
	2009	2008	2008	2007
Stock options	7,279,825	5,182,651	7,279,825	4,847,651
Warrants	38,424,340	34,713,048	28,102,033	26,873,047
Conversion of preferred stock	56,593,880	36,829,192	36,829,192	18,264,000

10. COMMITMENTS

On May 11, 2009, the Company entered into a twelve-month lease for office space, commencing September 1, 2009. Monthly rent is $5,275 per month. Rent expense was $49,074 for the six months ended June 30, 2009 and $92,100 and $81,450 for the years ended December 31, 2008 and 2007, respectively. Future minimum lease payments under this non-cancelable lease are $31,650 in the last six months of 2009 and $42,200 during 2010.

The Company is obligated to a Russian company, ZAO BAM, under a royalty and technology transfer agreement. Mark Balazovsky, a director of the Company until November 2006, is the majority shareholder of ZAO BAM. Pursuant to the royalty and technology transfer agreement between the Company and ZAO BAM, the Company is required to make royalty payments of 1.2% of net sales of oxidized glutathione-based products. The Company is also required to pay ZAO BAM $2 million for each new oxidized glutathione-based drug within eighteen months following FDA approval of such drug.

If a royalty is not being paid to ZAO BAM on net sales of oxidized glutathione products, then the Company is required to pay ZAO BAM 3% of all license revenues. If license revenues exceed the Company's cumulative expenditures including, but not limited to, preclinical and clinical studies, testing, FDA and other regulatory agency submission and approval costs, general and administrative costs, and patent expenses, then the Company would be required to pay ZAO BAM an additional 9% of the amount by which license revenues exceed the Company's cumulative expenditures. During 2008, the Company paid ZAO BAM $15,000, which was 3% of license payments received under the collaboration agreement described in Note 5. This amount is included in research and development expense on the statement of operations.

As a result of the assignment to Novelos of the exclusive worldwide intellectual property and marketing rights of oxidized glutathione (excluding the Russian Territory), Novelos is obligated to the Oxford Group, Ltd. for future royalties. Simyon Palmin, a founder of Novelos, a director until August 12, 2008 and the father of the Company's president and chief executive officer, is president of Oxford Group, Ltd. Mr. Palmin was also an employee of the Company and is now a consultant to the Company. Pursuant to the agreement, as revised May 26, 2005, Novelos is required to pay Oxford Group, Ltd. a royalty in the amount of 0.8% of the Company's net sales of oxidized glutathione-based products.

On July 15, 2005, the Company entered into an employment agreement with Christopher J. Pazoles, whereby he agreed to serve as the Company's vice president of research and development for an initial term of two years. The agreement is automatically renewed for successive one-year terms unless notice of termination is provided by either party at least 60 days prior to the end of any such term. The agreement was renewed for an additional one-year term on July 15, 2008 in accordance with its terms. The agreement provides for a minimum salary of $195,000 during the current and any future terms as well as participation in standard benefit programs. The agreement further provides that upon resignation for good reason or termination without cause, both as defined, Dr. Pazoles will receive his base salary for the remainder of the contract term. In addition, his benefits will be paid for the twelve months following termination.

The Company entered into an employment agreement with Harry Palmin effective January 1, 2006, whereby he agreed to serve as the Company's president and chief executive officer for an initial term of two years. The agreement is automatically renewed for successive one-year terms unless notice of termination is provided by either party at least 90 days prior to the end of such term. The agreement was renewed for an additional one-year term on January 1, 2009 in accordance with its terms. The agreement provides for an initial salary of $225,000, participation in standard benefit programs and an annual cash bonus at the discretion of the compensation committee. The agreement further provides that upon resignation for good reason or termination without cause, both as defined, Mr. Palmin will receive his pro rata share of the average of his annual bonus paid during the two fiscal years preceding his termination; his base salary and benefits for 11 months after the date of termination and fifty percent of his unvested stock options will vest. The agreement also contains a non-compete provision, which prohibits Mr. Palmin from competing with the Company for one year after termination of his employment with the Company.

11. SUBSEQUENT EVENTS

Conversions of Preferred Stock and Exercise of Warrants

In July 2009, 8.75 shares of the Company's Series E Preferred Stock, having an aggregate stated value of $437,500, and accumulated dividends thereon were converted into 696,465 shares of the Company's common stock.

In July 2009, the Company issued 72,916 shares of its common stock in connection with the cashless exercise of warrants to purchase an aggregate of 262,503 shares of the Company's common. The warrants had an expiration date of August 9, 2010 and an exercise price of $0.65 per share.

In August 2009, 21 shares of the Company's Series E Preferred Stock, having an aggregate stated value of $1,050,000 and accumulated dividends thereon were converted into 1,684,845 shares of the Company's common stock.

Amendment to By-Laws

Effective August 20, 2009, the Company's by-laws were amended in order to implement required notice periods and a protocol for calling shareholder meetings and addressing shareholder proposals.

Warrant Exchange

On August 21, 2009, the Company entered into exchange agreements with certain accredited investors who held warrants to purchase 6,947,728 shares of its common stock. Pursuant to the exchange agreements, an aggregate of 2,084,308 shares of the Company's common stock were issued in exchange for these warrants. The holders agreed not to transfer or dispose of the shares of common stock until February 18, 2010. The Company is evaluating the accounting treatment for this exchange.

These warrants had been issued in March 2006 in connection with a private placement of Novelos common stock, had an expiration date of March 7, 2011 and were exercisable at a price of $1.82 per share. Following the exchange, warrants expiring on March 7, 2011 to purchase a total of 5,432,120 shares of common stock at $1.82 per share remained outstanding. Following the financing described below, the number of these outstanding warrants was increased to 5,559,689 and the exercise price was reduced to $1.78, as a result of anti-dilution provisions in the warrants.

Sale of Common Stock and Warrant

Securities Purchase Agreement

On August 25, 2009, the Company entered into a Securities Purchase Agreement (the "August 2009 Purchase Agreement") with Purdue Pharma, L.P. ("Purdue") to sell 13,636,364 shares of its common stock, $0.00001 par and warrants to purchase 4,772,728 shares of its common stock at an exercise price of $0.66, expiring December 31, 2015, for an aggregate purchase price of $9,000,000. Concurrently with the execution and delivery of the August 2009 Purchase Agreement, the Company initially sold Purdue 5,303,030 shares of its common stock and a warrant to purchase 1,856,062 shares of its common stock at $0.66 per share for approximately $3,500,000 (the "Initial Closing"). The sale of the remaining common stock and warrants will be completed in one or more subsequent closings subject to the availability of additional authorized shares of the Company's common stock and the satisfaction of certain customary closing conditions.

Pursuant to the August 2009 Purchase Agreement, from the date of the Initial Closing until Purdue receives certain data related to the Company's Phase 3 clinical trial in non-small cell lung cancer (the "Exclusive Negotiation Period") Purdue has the exclusive right to negotiate with Novelos for the license or other acquisition of NOV-002 Rights (as defined in the August 2009 Purchase Agreement) in the United States (the "U.S. License"). If, during the Exclusive Negotiation Period, Purdue and Novelos agree on terms for a definitive agreement for the U.S. License, Novelos shall grant Purdue an option to enter into such definitive agreement within 30 days after the expiration of the Exclusive Negotiation Period. Purdue is entitled to a right of first refusal (the "Right of First Refusal") with respect to bona fide offers for a U.S. License received from third parties. Under the Right of First Refusal, Novelos will be required to communicate to Purdue the terms of any such third-party offers received and Purdue will have 30 days to enter into a definitive agreement with Novelos on substantially similar terms that provide no lesser economic benefit to Novelos as provided in the third-party offer. The Right of First Refusal terminates upon specified business combinations, occurring after the Exclusive Negotiation Period. The Right of First Refusal will terminate if Purdue fails to purchase shares of common stock at a subsequent closing at which Novelos has satisfied all conditions to Purdue's obligation to close. Novelos has separately entered into letter agreements with Mundipharma and its independent associated company providing for a conditional exclusive right to negotiate for, and a conditional right of first refusal with respect to, NOV-002 Rights for Latin America, Mexico and Canada.

Pursuant to the August 2009 Purchase Agreement, Purdue has the right to either designate one member to Novelos' board of directors (the "Board") or designate an observer to attend all meetings of the Board, committees thereof and access to all information made available to members of the Board. This right lasts until the later of such time as Purdue or its associated companies no longer hold at least one-half of the common stock purchased pursuant to the Purchase Agreement and no longer hold at least one-half of the Series E Preferred Stock issued to them on February 11, 2009. Purdue also has the right to participate in future equity financings in proportion to their pro rata ownership of common and preferred stock.

Common Stock Purchase Warrant

The common stock purchase warrant has an exercise price of $0.66 and expires on December 31, 2015. The warrant exercise price and/or the number of shares of common stock issuable pursuant to such warrant will be subject to adjustment 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.

Registration Rights Agreement

As part of this transaction, the Company entered into a registration rights agreement with Purdue. The registration rights agreement requires the Company to file with the Securities and Exchange Commission no later than 5 business days following the earlier of the six-month anniversary of (i) the Final Subsequent Closing (as defined in the August 2009 Purchase Agreement) or (ii) the end of the Exclusive Negotiation Period, a registration statement covering the resale of all the shares of common stock issued pursuant to the August 2009 Purchase Agreement and all shares of common stock issuable upon exercise of the warrants issued to pursuant to the August 2009 Purchase Agreement. The Company is required to use its 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 the Company fails to file the registration statement timely, it will be required to pay Purdue 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 common stock and until the delinquent registration statement is filed. The Company will be allowed to suspend the use of the registration for not more than 15 consecutive days or for a total of not more than 30 days in any 12 month period. In the event that any sale or issuances of common stock and warrants pursuant to the August 2009 Purchase Agreement occur after this filing deadline, the Company will be required to file a registration statement covering the registrable securities issued within 5 business days following the three-month anniversary of such sale or issuance.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

The following table provides information regarding the various actual and anticipated expenses payable by us in connection with the issuance and distribution of the securities being registered. We are paying the expenses incurred in registering the shares, but all selling and other expenses incurred by the selling stockholders will be borne by the selling stockholders. All amounts shown are estimates except the Securities and Exchange Commission registration fee.

Nature of Expense	Amount
SEC registration fee	$ 2,622
Accounting fees and expenses	5,000
Legal fees and expenses	20,000
Printing and related fees	5,000
Miscellaneous	5,000
Total	$ 37,622

Item 14. Indemnification of Directors and Officers.

Section 102(b)(7) of the Delaware General Corporation Law allows us to adopt a charter provision eliminating or limiting the personal liability of directors to us or our stockholders for breach of fiduciary duty as directors, but the provision may not eliminate or limit the liability of directors for (a) any breach of the director's duty of loyalty to us or our stockholders, (b) any acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (c) unlawful payments of dividends or unlawful stock repurchases or redemptions under Section 174 of the Delaware General Corporation Law or (d) any transaction from which the director derived an improper personal benefit. Article Seventh of our charter provides that none of our directors shall be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duty as a director, subject to the limitations imposed by Section 102(b)(7). Article Seventh also provides that no amendment to or repeal of Article Seventh shall apply to or have any effect on the liability or the alleged liability of any director with respect to any acts or omissions of such director occurring prior to such amendment or repeal. A principal effect of Article Seventh is to eliminate or limit the potential liability of our directors for monetary damages arising from breaches of their duty of care, unless the breach involves one of the four exceptions described in (a) through (d) above.

Section 145 of the Delaware General Corporation Law provides, in general, that a corporation incorporated under the laws of the State of Delaware, such as us, may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding (other than a derivative action by or in the right of the corporation) by reason of the fact that such person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe such person's conduct was unlawful. In the case of a derivative action, a Delaware corporation may indemnify any such person against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification will be made in respect of any claim, issue or matter as to which such person will have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery of the State of Delaware or any other court in which such action was brought determines such person is fairly and reasonably entitled to indemnity for such expenses.

Article Eighth of our amended and restated certificate of incorporation and Section 5.1 of our bylaws provide that we will indemnify our directors, officers, employees and agents to the extent and in the manner permitted by the provisions of the Delaware General Corporation Law, as amended from time to time, subject to any permissible expansion or limitation of such indemnification, as may be set forth in any shareholders' or directors' resolution or by contract.

The effect of these provisions would be to permit indemnification by us for, among other liabilities, liabilities arising out of the Securities Act of 1933.

Item 15. Recent Sales of Unregistered Securities

In the last three years we have sold the following securities in reliance on one or more exemptions from registration under the Securities Act of 1933, as amended, including the exemption under Section 4(2) thereof unless otherwise indicated:

2009

On August 25, 2009 we sold 5,303,030 shares of our common stock and warrants to purchase 1,856,062 shares of common stock at an exercise price of $0.66 per share, receiving gross proceeds of approximately $3,500,000.

On August 21, 2009, we issued 2,084,308 shares of common stock to holders of common stock warrants issued in a March 2006 financing transaction in exchange for outstanding warrants to purchase 6,947,728 shares of common stock at an exercise price of $1.82 per share. The issuance was made pursuant to an exchange agreement with each warrant holder and was exempt from registration under Section 3(a)(9) of the Securities Act.

On August 4, 2009 we issued 1,684,845 shares of our common stock upon conversion of 21 shares of our Series E preferred stock, having an aggregate stated value of $1,050,000 and accumulated undeclared dividends thereon.

On July 1, 2009, we issued 696,465 shares of our common stock upon conversion of 8.75 shares of our Series E preferred stock, having an aggregate stated value of $437,500, and accumulated undeclared dividends thereon.

On July 2, 2009, we issued 72,916 shares of our common stock in connection with the cashless exercise of warrants to purchase an aggregate of 262,503 shares of our common stock. The warrants had an expiration date of August 2, 2010 and an exercise price of $0.65 per share.

On June 24, 2009 we issued 6,112 shares of common stock in connection with the cashless exercise of warrants to purchase 20,830 shares of our common stock. The warrants had an expiration date of August 9, 2010 and an exercise price of $0.65 per share.

On May 12, 2009, June 1, 2009, June 5, 2009, June 17, 2009, June 23, 2009, and June 25, 2009 we issued a total of 761,843 shares of our common stock upon conversion of 35 shares of our Series C preferred stock, having an aggregate stated value of $420,000, and accumulated dividends thereon.

On February 11, 2009 we sold 200 shares of our Series E preferred stock and warrants to purchase 9,230,769 shares of common stock at an exercise price of $0.65 per share, receiving gross proceeds of $10,000,000 and paid approximately $800,000 in fees and expenses. In addition, 413.5 shares of Series D preferred stock and accumulated undeclared dividends thereon were exchanged for 445.442875 shares of Series E convertible preferred stock.

2008

On August 15, 2008, pursuant to a securities purchase agreement dated August 14, 2008, we sold 4,615,384 shares of our common stock to two related accredited investors at $0.65 per share, receiving aggregate gross proceeds of approximately $3,000,000.

On April 11, 2008, we issued 113.5 shares of our Series D convertible preferred stock and warrants to purchase 4,365,381 shares of our common stock at an exercise price of $0.65 per share to institutional investors. We received gross proceeds of $5,675,000 and paid approximately $200,000 in fees and expenses. In connection with this transaction, 300 shares of Series B preferred stock were exchanged for 300 shares of Series D preferred stock.

On January 16, 2008, we issued 100,000 shares of our common stock to Howard Schneider, one of our directors, upon the exercise of his stock option at a price of $0.01 per share for total consideration of $1,000, pursuant to an option granted in February 2005.

2007

On May 2, 2007, we issued 300 shares of our Series B preferred stock and warrants to purchase 7,500,000 shares of our common stock at an exercise price of $1.25 per share to institutional investors. We received gross proceeds of $15,000,000 and paid approximately $1,300,000 in fees and expenses. We also issued warrants to purchase 900,000 shares of our common stock at an exercise price of $1.25 per share to Rodman & Renshaw LLC and VFT Special Ventures, Ltd. (an affiliate of Emerging Growth Equities) as partial consideration for their placement agent services in connection with the financing.

On July 6, 2007 we issued 25,000 shares of our common stock to Dr. Kenneth Tew, the chairman of our Scientific Advisory Board, upon exercise of his stock option at a price per share of $0.01 for total consideration of $250, pursuant to an option granted in April 2004.

2006

On September 22, 2006 , we issued a total of 10,000 shares of our common stock to an investor relations consultant as compensation for services.

Item 16. Exhibits and Financial Statement Schedules

Exhibit No.	Description	Filed with this Registration Statement on Form S-1	Incorporated by Reference		
			Form	Filing Date	Exhibit No.
2.1	Agreement and plan of merger among Common Horizons, Inc., Nove Acquisition, Inc. and Novelos Therapeutics, Inc. dated May 26, 2005		8-K	June 2, 2005	99.2
2.2	Agreement and plan of merger between Common Horizons and Novelos Therapeutics, Inc. dated June 7, 2005		10-QSB	August 15, 2005	2.2
3.1	Certificate of Incorporation		8-K	June 17, 2005	1
3.2	Certificate of Designations of Series E convertible preferred stock		8-K	February 18, 2009	4.1
3.3	Certificate of Designations of Series C cumulative convertible preferred stock		10-QSB	May 8, 2007	3.2
3.4	Amended and Restated By-laws		8-K	August 26, 2009	3.1
5.1	Legal Opinion of Foley Hoag LLP	X			
10.1	Employment agreement with Christopher J. Pazoles dated July 15, 2005		10-QSB	August 15, 2005	10.4
10.2	Employment Agreement with Harry S. Palmin dated January 31, 2006		8-K	February 6, 2006	99.1
10.3	2000 Stock Option and Incentive Plan		SB-2	November 16, 2005	10.2
10.4	Form of 2004 non-plan non-qualified stock option		SB-2	November 16, 2005	10.3
10.5	Form of non-plan non-qualified stock option used from February to May 2005		SB-2	November 16, 2005	10.4
10.6	Form of non-plan non-qualified stock option used after May 2005		SB-2	November 16, 2005	10.5
10.7	Form of common stock purchase warrant issued in March 2005		SB-2	November 16, 2005	10.6
10.8	Form of securities purchase agreement dated May 2005		8-K	June 2, 2005	99.1
10.9	Form of subscription agreement dated September 30, 2005		8-K	October 3, 2005	99.1
10.10	Form of Class A common stock purchase warrant dated September 30, 2005		8-K	October 3, 2005	99.3
10.12	Consideration and new technology agreement dated April 1, 2005 with ZAO BAM		10-QSB	August 15, 2005	10.2
10.13	Letter agreement dated March 31, 2005 with The Oxford Group, Ltd.		10-QSB	August 15, 2005	10.3
10.14	Form of securities purchase agreement dated March 2, 2006		8-K	March 3, 2006	99.2
10.15	Form of common stock purchase warrant dated March 2006		8-K	March 3, 2006	99.3
10.16	2006 Stock Incentive Plan		10-QSB	November 6, 2006	10.1

Exhibit No.	Description	Filed with this Registration Statement on Form S-1	Incorporated by Reference		
			Form	Filing Date	Exhibit No.
10.17	Form of Incentive Stock Option under Novelos Therapeutics, Inc.'s 2006 Stock Incentive Plan		8-K	December 15, 2006	10.1
10.18	Form of Non-Statutory Stock Option under Novelos Therapeutics, Inc.'s 2006 Stock Incentive Plan		8-K	December 15, 2006	10.2
10.19	Form of Non-Statutory Director Stock Option under Novelos Therapeutics, Inc.'s 2006 Stock Incentive Plan		8-K	December 15, 2006	10.3
10.20	Securities Purchase Agreement dated April 12, 2007		10-QSB	May 8, 2007	10.1
10.21	Letter Amendment dated May 2, 2007 to the Securities Purchase Agreement		10-QSB	May 8, 2007	10.2
10.22	Registration Rights Agreement dated May 2, 2007		10-QSB	May 8, 2007	10.3
10.23	Agreement to Exchange and Consent dated May 1, 2007		10-QSB	May 8, 2007	10.5
10.25	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
10.26	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
10.27	Securities Purchase Agreement dated March 26, 2008		8-K	April 14, 2008	10.1
10.28	Amendment to Securities Purchase Agreement dated April 9, 2008		8-K	April 14, 2008	10.2
10.29	Registration Rights Agreement dated April 11, 2008		8-K	April 14, 2008	10.3
10.30	Form of Common Stock Purchase Warrant dated April 11, 2008 issued pursuant to the Securities Purchase Agreement dated March 26, 2008		8-K	April 14, 2008	4.3
10.31	Warrant Amendment Agreement dated April 11, 2008		8-K	April 14, 2008	10.5
10.32	Amendment to Registration Rights Agreement dated April 11, 2008		8-K	April 14, 2008	10.4
10.33	Securities Purchase Agreement dated August 14, 2008		8-K	August 18, 2008	10.1
10.34	Securities Purchase Agreement dated February 11, 2009		8-K	February 18, 2009	10.1
10.35	Registration Rights Agreement dated February 11, 2009		8-K	February 18, 2009	10.2

Exhibit No.	Description	Filed with this Registration Statement on Form S-1	Incorporated by Reference		
			Form	Filing Date	Exhibit No.
10.36	Series D Preferred Stock Consent and Agreement to Exchange dated February 10, 2009		8-K	February 18, 2009	10.3
10.37	Warrant Amendment Agreements dated February 11, 2009		8-K	February 18, 2009	10.4
10.38	Amendment No. 2 to Registration Rights Agreement dated February 11, 2009		8-K	February 18, 2009	10.5
10.39*	Collaboration Agreement dated February 11, 2009		10-K	March 30, 2009	10.39
10.40	Form of Warrant Exchange Agreement dated August 21, 2009		8-K	August 26, 2009	10.5
10.41	Securities Purchase Agreement dated August 25, 2009	X			
10.42	Registration Rights Agreement dated August 25, 2009	X			
10.43	Common Stock Purchase Warrant dated August 25,2009	X			
10.44	Letter Agreement with LP Clover Limited dated August 25, 2009	X			
10.45	Letter Agreement with Mundipharma International Corporation Limited dated August 25, 2009	X			
23.1	Consent of Foley Hoag (included in Exhibit 5.1)	X			
23.2	Consent of Stowe & Degon LLC	X			
23.3	Power of Attorney (included on signature page)	X			

* Portions of this exhibit have been omitted pursuant to a confidential treatment order.

Item 17. Undertakings.

(a) The undersigned registrant hereby undertakes to:

(1) File, during any period in which it offers or sells securities, a post-effective amendment to this Registration Statement to:

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

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

(iii) Include any additional or changed material information on the plan of distribution.

(2) For determining liability under the Securities Act, treat each post-effective amendment as a new registration statement of the securities offered, and the offering of the securities at that time to be the initial bona fide offering.

(3) File a post-effective amendment to remove from registration any of the securities that remain unsold at the end of the offering.

(4) For determining liability of the undersigned small business issuer under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned small business issuer undertakes that in a primary offering of securities of the undersigned small business issuer pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned small business issuer will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned small business issuer relating to the offering required to be filed pursuant to Rule 424 (§230.424 of this chapter);

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

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

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

(b) Insofar as indemnification for liabilities arising under the Securities Act of 1933 (the "Act") may be permitted to directors, officers and controlling persons of the small business issuer pursuant to foregoing provisions, or otherwise, the small business issuer has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable.

(c) Each prospectus filed pursuant to Rule 424(b)(§230.424(b) of this chapter) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A (§230.430A of this chapter), shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

SIGNATURES

In accordance with the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements of filing on Form S-1 and authorized this registration statement to be signed on its behalf by the undersigned, in the City of Newton, Commonwealth of Massachusetts, on September 15, 2009.

NOVELOS THERAPEUTICS, INC.

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

KNOW ALL MEN BY THESE PRESENTS, that each individual whose signature appears below constitutes and appoints Harry S. Palmin and Joanne M. Protano, and each of them, his true and lawful attorney-in-fact and agent, with full power of substitution and re-substitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and to file the same, with all exhibits and schedules thereto, and all other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing, which they, or either of them, may deem necessary or advisable to be done in connection with this registration statement, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or their substitute or substitutes or any of them, may lawfully do or cause to be done by virtue hereof.

In accordance with the requirements of the Securities Act of 1933, this registration statement was signed by the following persons in the capacities and on the dates stated:

Signature	Title	Date
/s/ Harry S. Palmin Harry S. Palmin	Chief Executive Officer and Director (*principal executive officer*)	September 15, 2009
/s/ Joanne M. Protano Joanne M. Protano	Chief Financial Officer (*principal financial officer and principal accounting officer)*	September 15, 2009
/s/ Stephen A. Hill Stephen A. Hill	Chairman of the Board of Directors	September 15, 2009
/s/ Michael J. Doyle Michael J. Doyle	Director	September 15, 2009
/s/ Sim Fass Sim Fass	Director	September 15, 2009
/s/ James S. Manuso James S. Manuso	Director	September 15, 2009
/s/ David B. McWilliams David B. McWilliams	Director	September 15, 2009
/s/ Howard M. Schneider Howard M. Schneider	Director	September 15, 2009

EXHIBIT INDEX

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10.7	Form of common stock purchase warrant issued in March 2005		SB-2	November 16, 2005	10.6
10.8	Form of securities purchase agreement dated May 2005		8-K	June 2, 2005	99.1
10.9	Form of subscription agreement dated September 30, 2005		8-K	October 3, 2005	99.1
10.10	Form of Class A common stock purchase warrant dated September 30, 2005		8-K	October 3, 2005	99.3
10.12	Consideration and new technology agreement dated April 1, 2005 with ZAO BAM		10-QSB	August 15, 2005	10.2
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10.42	Registration Rights Agreement dated August 25, 2009	X			
10.43	Common Stock Purchase Warrant dated August 25,2009	X			
10.44	Letter Agreement with LP Clover Limited dated August 25, 2009	X			
10.45	Letter Agreement with Mundipharma International Corporation Limited dated August 25, 2009	X			
23.1	Consent of Foley Hoag (included in Exhibit 5.1)	X			
23.2	Consent of Stowe & Degon LLC	X			
23.3	Power of Attorney (included on signature page)	X			

* Portions of this exhibit have been omitted pursuant to a confidential treatment order.

Exhibit 5.1

September 15, 2009

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

Ladies and Gentlemen:

We have acted as counsel to Novelos Therapeutics, Inc., a Delaware corporation (the ‘‘Company’’), in connection with the preparation and filing with the Securities and Exchange Commission under the Securities Act of 1933, as amended, of a registration statement on Form S-1 (the ‘‘Registration Statement’’) relating to the resale of up to 37,649,442 shares (the “Conversion Shares”) of common stock, $.00001 par value per share, of the Company (the “Common Stock”) issuable on conversion of shares of Series E Convertible Preferred Stock, par value $.00001 per share, of the Company (the “Preferred Stock”) and up to 21,096,150 shares (the “Warrant Shares”) of Common Stock that are issuable upon the exercise of common stock purchase warrants (the “Warrants”) that expire on December 31, 2015.

In arriving at the opinion expressed below, we have examined and relied on the following documents: (a) the Certificate of Incorporation and Bylaws of the Company, each as amended to date; (b) the Registration Statement; (c) the Warrants; and (d) the records of meetings and consents of the Board of Directors and stockholders of the Company provided to us by the Company. In addition, we have examined and relied on the originals or copies certified or otherwise identified to our satisfaction of all such corporate records of the Company and such other instruments and other certificates of public officials, officers and representatives of the Company and such other persons, and we have made such investigations of law, as we have deemed appropriate as a basis for the opinion expressed below.

Based upon the foregoing, and subject to the qualifications set forth herein, we are of the opinion that, assuming (a) the Registration Statement shall have become effective, (b) the Warrant Shares shall have been issued upon exercise of the Warrants in accordance with the terms of the Warrants, including the payment of the purchase price payable for the Warrant Shares pursuant to the Warrants, and (c) the Conversion Shares shall have been issued upon conversion of shares of Preferred Stock in accordance with the Certificate of Rights, Preferences and Designation of the Preferred Stock, the Shares sold pursuant to the Registration Statement will be validly and legally issued, fully paid and non-assessable.

We express no opinion as to the laws of any state or jurisdiction other than the General Corporation Law of the State of Delaware (including applicable provisions of the Delaware Constitution and reported judicial decisions interpreting such Law and such Constitution) and the federal laws of the United States of America.

This opinion is being delivered and is intended for use solely in regard to the transactions contemplated by the Registration Statement and may not be used, circulated, quoted in whole or in part or otherwise referred to for any purpose without our prior written consent and may not be relied upon by any person or entity other than the Company, its successors and assigns. This opinion is based upon our knowledge of law and facts as of its date. We assume no duty to communicate to you with respect to any matter which comes to our attention hereafter.

We consent to the filing of this opinion as an exhibit to the Registration Statement and the reference to us under the heading ‘‘Legal Matters’’ in the prospectus forming a part of the Registration Statement. In giving such consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

Very truly yours,

FOLEY HOAG LLP

By: /s/ Paul Bork
A Partner

Execution Copy

SECURITIES PURCHASE AGREEMENT

THIS SECURITIES PURCHASE AGREEMENT ("**Agreement**") is made as of this 25th day of August, 2009 by and among Novelos Therapeutics, Inc., a Delaware corporation (the "**Company**") and Purdue Pharma L.P., a Delaware limited partnership ("**Purdue**").

Recitals:

A. The Company desires, pursuant to this Agreement, to raise the Investment Amount (as defined below) through the issuance and sale, in the aggregate, of the following to Purdue (the "**Private Placement**"): (i) 13,636,364 shares (the "**Common Shares**") of Common Stock, par value $0.00001 per share (the **"Common Stock"**); and (ii) warrants to acquire shares of Common Stock equal to 35% of the aggregate number of shares of Common Stock to be issued and sold to Purdue pursuant to the Closings (as defined below) rounded up to the next even number at each Closing (as defined below), approximately 4,772,728 shares of Common Stock, with an exercise price of $0.66 per share, each to be in the form of **Exhibit B** annexed hereto and made a part hereof (the "**Warrants**");

B. Purdue desires to purchase from the Company, and the Company desires to issue and sell to Purdue, upon the terms and conditions stated in this Agreement, the Common Shares and the Warrant;

C. Subject to the conditions hereinafter set forth, on each Closing Date, Purdue will purchase Common Shares and Warrants in the Private Placement for an aggregate purchase price equal to the portion of the Investment Amount to be delivered at the applicable Closing;

D. The Company and Purdue 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**"); and

E. Contemporaneous with closing of the initial sale of the Common Shares and the Warrants hereunder (the " **Initial Closing**"), the Company and Purdue will enter into a Registration Rights Agreement, in the form attached hereto as **Exhibit E** (the "**Registration Rights Agreement**");

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.

"**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.

"**Associated Company**" means, as to Purdue, any person, firm, trust, partnership, corporation, company or other entity or combination thereof, which directly or indirectly (i) controls (ii) is controlled by or (iii) is under common control with Purdue. The terms "control" and "controlled" mean ownership of 50% or more, including ownership by trusts with substantially the same beneficial interests, of the voting and equity rights of such person, firm, trust, partnership, corporation, company or other entity or combination thereof or the power to direct the management of such person, firm, trust, partnership, corporation, company or other entity or combination thereof.

"**Business Combination**" means (i) the acquisition by a third party of a majority of the outstanding shares of capital stock of the Company by tender or exchange offer or otherwise where such third party shall have become, directly or indirectly, the beneficial owner (within the meaning of Rule 13d-3 under the 1934 Act) of the securities of the Company representing fifty percent (50%) or more of the Company's capital stock, (ii) the effectiveness of any merger of the Company with or into a third party, in which the capital stock of the Company immediately prior to such merger represents less than fifty percent (50%) of the voting power (without regard to the effect of any so-called "blocker provisions" of any convertible securities) of the surviving entity (or, if the surviving entity is a wholly owned subsidiary, its parent) immediately after such merger and (iii) the closing of any sale of all or substantially all of the assets of the Company.

"**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 8.14.

"**Closing**" and "**Closings**" have the meaning set forth in Section 4.1.

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

"**Collaboration Agreement**" refers to that agreement between the Company and Mundipharma International Corporation Limited dated as of February 11, 2009.

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

"**Common Stock Equivalents**" means any securities of the Company or the Subsidiaries which entitle the holder thereof to acquire Common Stock at any time, including, without limitation, any debt, preferred stock, rights, options, warrants or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

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

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

"**Company's Knowledge,**" "**Knowledge of the Company**" or any like expression with respect to the Company means the actual knowledge of the officers of the Company and the knowledge that would be reasonably expected to be known by such individuals in the ordinary and usual course of the performance of their professional responsibilities to the Company.

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

"**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.

"**Deadline Date**" has the meaning set forth in Section 8.14.

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

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

"**Exempt Issuance**" means the issuance of (a) shares of Common Stock or options to employees, officers, directors or consultants of the Company pursuant to (i) any existing stock or option plan, or (ii) 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, (b) options issued to new employees, (c) securities upon the exercise or exchange of or conversion of any Securities issued hereunder and/or securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of this Agreement, provided that such securities have not been amended since the date of this Agreement to increase the number of such securities or to decrease the exercise, exchange or conversion price of any such securities, and (d) securities issued pursuant to acquisitions or strategic transactions or in connection with a strategic alliance collaboration, joint venture, partnership, manufacturing, marketing, distributing or similar arrangement of the Company with another Person which strategic alliance, collaboration, joint venture, partnership manufacturing, marketing, distributing or similar arrangement relates to the Company's business as conducted immediately prior thereto and which Person is engaged in a business similar or related to the business of the Company, provided any such issuance shall only be to a Person which is, itself or through its subsidiaries, an operating company in a business synergistic with the business of the Company and in which the Company receives benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities.

"**Final Subsequent Closing**" shall mean a Subsequent Closing upon the occurrence of which the Company will have achieved the issuance and sale to Purdue, in the aggregate, of all Common Shares and Warrants issuable to Purdue pursuant to this Agreement.

"**Indebtedness**" shall mean (a) any liabilities for borrowed money or amounts owed in excess of $50,000 (other than trade accounts payable incurred in the ordinary course of business), (b) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Company's balance sheet (or the notes thereto), except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business; and (c) the present value of any lease payments in excess of $50,000 due under leases required to be capitalized in accordance with United States generally accepted accounting principles.

"**Indemnified Person**" has the meaning set forth in Section 9.3.

"**Initial Closing**" has the meaning set forth in the Recitals.

"**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 $9,000,000.24.

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

"**Losses**" has the meaning set forth in Section 9.2.

"**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, 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 (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-K of the 1933 Act, or (ii) the loss of which could reasonably be expected to have a Material Adverse Effect.

"**OTCBB**" shall mean the OTC Bulletin Board.

"Preferred Stock" means the Company's preferred stock, par value $0.00001 per share.
"**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.

"Press Release" has the meaning set forth in Section 8.12.

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

"**Pro Rata Share**" means with respect to each capital raising transaction to which Section 10.1 applies an amount equal to the product obtained by multiplying (a) an amount equal to the securities being issued in such capital raising transaction times (b) a fraction of which the numerator is the number of shares of all Common Stock beneficially owned by Purdue and its Associated Companies at the time the Pro Rata Share is being determined (including shares of Common Stock issuable upon conversion of shares of Preferred Stock), and the denominator is all of the outstanding shares of Common Stock and shares of Common Stock issuable upon conversion of outstanding Preferred Stock.

"**Purdue Observer**" has the meaning set forth in Section 8.9.

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

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

"Rule 144" has the meaning set forth in Section 8.13.

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

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

"**Securities**" means the Common Shares, the Warrant and the Warrant Shares.

"**Series E SPA** " means that certain Securities Purchase Agreement, dated as of February 11, 2009, by and among the Company and certain investors, including Purdue.

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

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

"**United States**" shall mean the United States of America, its territories and possessions.

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

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

2. Purchase and Sale of Securities.

Subject to the terms and conditions of this Agreement, including without limitation, the conditions set forth in Section 7, there shall be Closings at which the Company shall issue and sell, and Purdue agrees to purchase Common Shares in the Private Placement by executing a counterpart to this Agreement, shall purchase, the Common Shares and the Warrants in exchange for the cash consideration consisting of such portion of the "Investment Amount" as shall be payable for the Common Shares and Warrants so issued and sold at each such Closing.

3. [Reserved.]

4. Closings.

4.1 Place. All closings of the transactions contemplated by this Agreement (individually, the "**Closing**" and collectively, the "**Closings**"; the date of each Closing referred to as the "**Closing Date**" of such Closing) shall take place at the offices of Company Counsel, Seaport World Trade Center West, 155 Seaport Boulevard, Boston, MA 02210 (or remotely via the electronic exchange of documents and signatures) or at such other location as the parties shall agree. The Initial Closing shall take place simultaneously with the execution and delivery of this Agreement and any additional Closings (each, a "**Subsequent Closing**") shall take place as set forth in Section 4.3.

4.2 Initial Closing. Simultaneously with the execution hereof, the Company shall hold the Initial Closing. At the Initial Closing, the Company will deliver to Purdue via e-mail an electronic copy of the signed stock certificate(s) representing 5,303,030 Common Shares (the "**Initial Shares**"), which shall be an even number, registered in Purdue's name and an electronic copy of a signed Warrant exercisable for 1,856,062 Warrant Shares (the "**Initial Warrant**"), which number of Warrant Shares shall be rounded up to the next even number. Following such delivery, Purdue shall promptly initiate a wire transfer of immediately available funds (U.S. dollars) equal to $3,499,999.80 to be delivered to the account of the Company, account details of which are as set forth on **Schedule 4.2** affixed hereto.

4.3 Subsequent Closings. A Subsequent Closing shall occur as soon as practicable, and in any event within 5 business days of the delivery by the Company to Purdue of a written notice calling for such Subsequent Closing and specifying the amount of Common Shares to be issued at such Subsequent Closing (each a "**Subsequent Closing Notice**"), which in each case shall be an even number of Common Shares. At each Subsequent Closing, the Company will deliver to Purdue via e-mail an electronic copy of the signed stock certificate(s) representing the number of Common Shares specified in the applicable Subsequent Closing Notice, registered in Purdue's name, and an electronic copy of a signed Warrant exercisable for a number of Warrant Shares equal to 35% of the number of the Common Shares issued in each such Subsequent Closing, which number of Warrant Shares shall be rounded up to the next even number. The Company will use its best efforts to achieve the authorization, and take all requisite action on the part of the Company, its officers, directors and stockholders necessary for said authorization, of sufficient shares of Common Stock to issue to Purdue all Common Shares and Warrants issuable pursuant to this Agreement as soon as practicable after the Initial Closing. Each of the Company and Purdue shall use its best efforts to complete the Final Subsequent Closing on or prior to Exclusive Negotiation Period. Following delivery of each Subsequent Closing Notice, Purdue shall promptly initiate a wire transfer of immediately available funds (U.S. dollars) equal to the stated value of such Common Shares to be delivered to the account of the Company, account details of which are as set forth on **Schedule 4.2** affixed hereto. Notwithstanding the foregoing (i) at each Subsequent Closing, the Company shall issue and sell not less than $1,000,000 other than the final Subsequent Closing which can be for less than $1,000,000; (ii) the aggregate purchase price of the Common Shares and Warrants sold in all Closings shall not exceed the Investment Amount; and (iii) no Subsequent Closing shall take place after the end of the Exclusive Negotiation Period without the prior written consent of Purdue.

4.4 Delivery of Original Common Shares and Warrants. As soon as possible after each Closing, but no later than 5 Business Days following such Closing, the Company will deliver by overnight mail, original certificate(s) representing the Common Shares and the original Warrant issued and sold at such Closing.

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

5.1. Organization, Good Standing and Qualification. The Company 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. The Company 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. The Company has no subsidiaries.

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, (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 relevant to each Closing as of the relevant Closing Date. 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. 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 is or may be obligated to issue any equity securities of any kind and, except as contemplated by this Agreement, the Company is not 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 Common Shares and Warrants at the Initial Closing and at the Final Subsequent Closing, (ii) any adjustments in other securities resulting from the issuance of the Common Shares and Warrants at the Initial Closing and to the Final Subsequent 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 Purdue) 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.

(d) Except as set forth on Schedule 5.3, there are no stockholder rights plans, or similar plan or arrangement in effect, including those under which Purdue would be considered an "acquiring person" or under which Purdue would be deemed to trigger provisions by virtue of Purdue's receipt of Securities under the Transaction Documents.

5 . 4 . Valid Issuance. The Common Shares relevant to each Closing have been duly and validly authorized as of the relevant Closing Date, and, when issued to Purdue in accordance with the terms of this Agreement, 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 or imposed by applicable securities laws. The Warrants have been duly and validly authorized and, upon the due exercise of each Warrant, the applicable 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 or imposed by applicable securities laws. The Company has reserved a sufficient number of shares of Common Stock for issuance upon exercise of the Warrants outstanding as of each Closing.

5.5. Consents. The execution, delivery and performance by the Company of the Transaction Documents 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 Warrant Shares issuable upon due exercise of each Warrant, and (iii) 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 Purdue, 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 Purdue or the exercise of any right granted to Purdue pursuant to this Agreement or the other Transaction Documents.

5.6. Delivery of SEC Filings; Business. Copies of the Company's most recent Annual Report on Form 10-K for the fiscal year ended December 31, 2008, the Company's quarterly reports on Form 10-Q for the quarters ended March 31, 2009 and June 30, 2009, and reports on Form 8-K filed by the Company from January 1, 2009 through the Initial Closing (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 is 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.

5.7. No Material Adverse Change. Except as contemplated herein or identified and described on Schedule 5.7(a), since June 30, 2009, 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 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, 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;

(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 is bound or to which any of its assets or properties is subject;

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

(viii) any transaction entered into by the Company 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;

(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 has not registered any of its securities with the SEC under Sections 12(b) or 12(g) of the 1934 Act and is not required to do so by any OTCBB regulations, 1934 Act or otherwise by SEC regulations. The Company is required to file reports pursuant to Section 15(d) of the 1934 Act. 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. The Company has not 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 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 Purdue 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 or any of its respective assets or properties, or (b) except as set forth on Schedule 5.9, any agreement or instrument to which the Company is a party or by which it is bound or to which any of its assets or properties is subject.

5.10. Tax Matters. The Company has timely prepared and filed all tax returns required to have been filed by it 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 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. All taxes and other assessments and levies that the Company 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 of its 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 other corporation or entity. The Company is not presently undergoing any audit by a taxing authority, nor has it 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 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 the Company; and except as disclosed in the SEC Filings, the Company 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 the Company.

5.12. Certificates, Authorities and Permits. The Company possess adequate certificates, authorities or permits issued by appropriate governmental agencies or bodies necessary to conduct the business now operated by it, and the Company has not 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, 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 exists or, to the Company's Knowledge, is imminent.

5.14. Intellectual Property.

(a) All Intellectual Property of the Company 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 which is necessary for the conduct of Company's 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 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 business as currently conducted or as currently proposed to be conducted to which the Company is a party or by which any of its 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 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 under any such License Agreement.

(c) The Company owns or has the valid right to use all of the Intellectual Property that is necessary for the conduct of the Company's business 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 business. The Company has a valid and enforceable right to use all third-party Intellectual Property and Confidential Information used or held for use in the respective business of the Company as currently conducted or as currently proposed to be conducted.

(d) To the Company's Knowledge, the conduct of the Company's business 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 which are necessary for the conduct of Company's business 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 the Company's 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 ownership or right to use any of the Intellectual Property or Confidential Information which is necessary for the conduct of the Company's respective business as currently conducted or as currently proposed to be conducted.

(f) To the Company's Knowledge, all software owned by the Company, and, to the Company's Knowledge, all software licensed from third parties by the Company, (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 has taken reasonable steps to protect its rights in its 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 business 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 Confidential Information to any third party without the Company's consent.

5.15. Environmental Matters. The Company (i) is not 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) neither owns nor operates any real property contaminated with any substance that is subject to any Environmental Laws, (iii) is not liable for any off-site disposal or contamination pursuant to any Environmental Laws, and (iv) is not 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 set forth in Section 5.16, there are no pending actions, suits or proceedings against or affecting the Company or any of its properties; and to the Company's Knowledge, no such actions, suits or proceedings are threatened or contemplated.

5.17. Financial Statements. The financial statements of the Company included in the SEC Filings 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, the Company has not 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 maintains in full force and effect insurance coverage and the Company reasonably believes such insurance coverage is adequate. The Company has no reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business on terms consistent with market for the Company's lines of business.

5.19. Brokers and Finders. Except as 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 or Purdue 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 cause this offering of the Securities to be integrated with prior offerings by the Company for purposes of the 1933 Act, which would require the registration of any such securities under the 1933 Act or under the rules and regulations of the OTCBB on which any of the securities of the company are listed or designated, including 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 Purdue contained in Section 6 hereof, the offer and sale of the Securities to Purdue as contemplated hereby is exempt from the registration requirements of the 1933 Act.

5.23. Questionable Payments. Neither the Company nor, to the Company's Knowledge, any of its current or former stockholders, directors, officers, employees, agents or other Persons acting on its behalf, has on behalf of the Company or in connection with the Company's business: (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; (e) made any unlawful bribe, rebate, payoff, influence payment, kickback or other unlawful payment of any nature; or (f) violated in any material respect any provision of the Foreign Corrupt Practices Act of 1977, as amended.

5.24. Transactions with Affiliates. Except as set forth on Schedule 5.24, none of the officers or directors of the Company and, to the Company's Knowledge, none of the employees of the Company is presently a party to any transaction, or presently contemplated transaction, with the Company (other than for services as employees, officers and directors) that would be required to be disclosed pursuant to Item 404 of Regulation S-K 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. The Company is in compliance with all OTCBB rules and regulations in effect as of the Initial Closing necessary to ensure that the Common Stock is authorized to be traded on the OTCBB. To the extent such OTCBB rules and regulations have been materially amended or revised since the Initial Closing, the Company has used its best efforts to comply with such amendments and revisions in order to ensure that the Common Stock is authorized to be traded on the OTCBB.

5.26. Acknowledgment Regarding Purdue's Purchase of Securities. The Company acknowledges that Purdue is not acting as a financial advisor or fiduciary of the Company (or in any similar capacity) with respect to this Agreement and the transactions contemplated hereby and any advice given by Purdue or any of their respective representatives or agents in connection with this Agreement and the transactions contemplated hereby is merely incidental to Purdue's purchase of the Securities.

5.27. Sarbanes-Oxley; Internal Accounting Controls. The Company is in material compliance with all provisions of the Sarbanes-Oxley Act of 2002 which are applicable to it as of the Initial Closing. The Company maintains a system of internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management's general or specific authorizations, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with United States general accepted accounting principles and to maintain asset accountability, (iii) access to assets is permitted only in accordance with management's general or specific authorization, and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. The Company has established disclosure controls and procedures (as defined in 1934 Act Rules 13a-15(e) and 15d-15(e)) for the Company and designed such disclosure controls and procedures to ensure that material information relating to the Company, is made known to the certifying officers by others within those entities, particularly during the period in which the Company's most recently filed periodic report under the 1934 Act, as the case may be, is being prepared. The Company's certifying officers have evaluated the effectiveness of the Company's controls and procedures as of the date prior to the filing date of the most recently filed periodic report under the 1934 Act (such date, the "Evaluation Date"). The Company presented in its most recently filed periodic report under the 1934 Act the conclusions of the certifying officers about the effectiveness of the disclosure controls and procedures based on their evaluations as of the Evaluation Date. Since the Evaluation Date, there have been no significant changes in the Company's internal controls (as such term is defined in Item 307(b) of Regulation S-K under the 1934 Act) or, to the Knowledge of the Company, in other factors that could significantly affect the Company's internal controls.

5.28. Solvency. Based on the financial condition of the Company as of each Closing after giving effect to the receipt by the Company of the proceeds from the sale of the Securities hereunder, the Company's assets do not constitute unreasonably small capital to carry on its business for the current fiscal year as now conducted and as proposed to be conducted including its capital needs taking into account the particular capital requirements of the business conducted by the Company, and projected capital requirements and capital availability thereof. The Company does not intend to incur debts beyond its ability to pay such debts as they mature (taking into account the timing and amounts of cash to be payable on or in respect of its debt). Assuming that the Company receives the entire Investment Amount as provided in this Agreement, it has no present intention to, nor does it have a present belief that it will need to, file for reorganization or liquidation under the bankruptcy or reorganization laws of any jurisdiction. Schedule 5.28 sets forth all outstanding secured and unsecured Indebtedness of the Company, or for which the Company has commitments. The Company is not in default with respect to any Indebtedness.

5.29. Investment Company. The Company is not, and immediately after receipt of payment for the Securities will not be, an "investment company" within the meaning of the Investment Company Act of 1940, as amended.

6 . Representations and Warranties of Purdue. Purdue hereby represents and warrants to the Company on and as of each Closing, knowing and intending that the Company rely thereon, that:

6 . 1 . Authorization. The execution, delivery and performance by Purdue of the Transaction Documents to which Purdue is a party have been duly authorized and will each constitute the valid and legally binding obligation of Purdue, enforceable against Purdue 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 Purdue hereunder will be acquired for Purdue'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 Purdue has no present intention of selling, granting any participation in, or otherwise distributing the same in violation of the 1933 Act. Purdue is not a registered broker dealer or an entity engaged in the business of being a broker dealer.

6 . 3 . Investment Experience. Purdue 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. Purdue has significant experience in making private investments, similar to the purchase of the Securities hereunder.

6 . 4 . Disclosure of Information. Purdue 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. Purdue acknowledges receipt of copies of and its satisfactory review of the SEC Filings. Neither such inquiries nor any other due diligence investigation conducted by Purdue shall modify, amend or affect Purdue's right to rely on the Company's representations and warranties contained in this Agreement.

6.5. Restricted Securities. Purdue 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 Initial Closing in the case of the Common Shares and the first anniversary of the date of exercise of a Warrant in the case of the Warrant Shares, provided, in each case, that Purdue is not an Affiliate of the Company and has not been an Affiliate for a period of ninety days, the Company shall, upon Purdue'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 Purdue of legended certificate(s) to the Company's transfer agent together with a representation letter in customary form, the Company shall be liable to Purdue 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) Purdue 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 Purdue to sell any Securities pursuant to either the registration requirements of the Securities Act, including any applicable prospectus delivery requirements, or an exemption therefrom.

(e) Notwithstanding any restrictions on transfer set forth in this Section 6.6, Purdue may sell, transfer, assign, pledge or otherwise dispose of the Securities, in whole or in part, to any of its Associated Companies or any third party subject to (i) compliance with all applicable securities laws and the conditions set forth in this Section 6.6 and (ii) the delivery to the Company of such documentation as may be reasonably requested by the Company and reasonably necessary for the Company to obtain a legal opinion that such disposition may lawfully be made without registration under the Securities Act.

6.7. Accredited Investor. Purdue is an "accredited investor" as defined in Rule 501(a) of Regulation D.

6.8. No General Solicitation. Purdue 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.

6.9. Brokers and Finders. Other than as disclosed on 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 or Purdue for any commission, fee or other compensation pursuant to any agreement, arrangement or understanding entered into by or on behalf of Purdue.

7. Conditions to Closing.

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

(a) (i) The representations and warranties made by the Company, in Article 5 as of the Initial Closing 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 as of the Initial Closing; and (ii) the representations and warranties of the Company contained in Sections 5.1, 5.2, 5.4, 5.5, 5.9, 5.25 and 5.28 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 as of the time of each Subsequent Closing as though made at and as of such Subsequent Closing;

(b) The Company shall have performed in all material respects all obligations herein required to be performed or observed by it on or prior to each Closing;

(c) 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 being issued and sold at such Closing, and all of which shall be and remain so long as necessary in full force and effect;

(d) The Common Shares to be issued at each Closing shall have been duly and validly authorized and, when issued to Purdue in accordance with the terms of this Agreement, shall 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 or imposed by applicable securities laws;

(e) Solely with respect to the Initial Closing, the Company shall have executed, obtained and delivered an otherwise fully executed counterpart to the Registration Rights Agreement to Purdue;

(f) As of each Closing, 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;

(g) The Company shall have delivered a Certificate, executed on behalf of the Company by its Chief Executive Officer or its Chief Financial Officer (i) at the Initial Closing, dated as of the Initial Closing, certifying to the fulfillment of the conditions specified in subsections (a), (b), (c), (d), (f) and (k) of this Section 7.1, and (ii) at each Subsequent Closing, dated as of such Subsequent Closing, certifying to the fulfillment of the conditions specified in subsections (a), (b), (c), (d), (f), (k), (l), (m) and (n) of this Section 7.1,

(h) The Company shall have delivered a Certificate, executed on behalf of the Company by its Secretary, dated as of the Initial Closing, 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; The Company shall further delivered a Certificate, executed on behalf of the Company by its Secretary, dated as of each Subsequent Closing certifying that the aforementioned resolutions of the Board of Directors of the Company have not been repealed and further certifying that the Certificate of Incorporation and Bylaws of the Company have not been amended from the versions that the Secretary of the Company certified as current at the time of the Initial Closing;

(i) [Reserved.];

(j) Purdue shall have received a Company Counsel Opinion with respect to the Securities to be issued at each Closing;

(k) As of each Closing, no stop order or suspension of trading shall have been imposed by any Person with respect to public trading in the Common Stock;

(l) As of each Subsequent Closing, the Company shall not have (i) applied for or consented to the appointment of, or the taking of possession by, a receiver, custodian, trustee or liquidator of itself or of all or a substantial part of its property, (ii) made a general assignment for the benefit of its creditors, (iii) commenced a voluntary case under the U.S. Bankruptcy Code, (iv) filed a petition seeking to take advantage of any laws relating to bankruptcy, insolvency, reorganization, winding-up, or composition or readjustment of debts (v) taken any corporate action for the purpose of effecting any of the foregoing, (vi) a proceeding or case commenced against it, or itself have initiated, in any court of competent jurisdiction, seeking (A) its liquidation, reorganization, dissolution or winding-up, or the composition or readjustment of its debts, (B) the appointment of a trustee, receiver, custodian, liquidator or the like of all or any substantial part of its assets, or (C) similar relief under the U.S. Bankruptcy Code, or an order, judgment or decree approving any of the foregoing is entered and continues unstayed for a period of sixty (60) days, or (vii) had an order for relief against it entered in an involuntary case under the U.S. Bankruptcy Code;

(m) As of each Subsequent Closing, the Company shall be in compliance with its obligations set forth in Sections 8.4, 8.5, 8.9, 8.10 and 8.11; and

(n) As of each Subsequent Closing, the Company shall be in compliance with its obligations set forth in Section 8.16 with respect to all quarterly reports on Form 10-Q and annual reports on Form 10-K.

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

(a) The representations and warranties made by Purdue 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 as of each Closing;

(b) Purdue shall have performed in all material respects all obligations herein required to be performed or observed by it on or prior to each Closing;

(c) [Reserved.];

(d) Solely with respect to the Initial Closing, Purdue shall have executed and delivered the Registration Rights Agreement to the Company;

(e) Purdue shall have delivered the portion of the Investment Amount deliverable to the Company at each Closing as described in Section 4;

(f) 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

(g) Purdue shall have delivered to the Company a completed Purchaser Questionnaire in the form attached hereto as Exhibit D.

8. Covenants and Agreements of the Company.

8.1. Authorization of Common Stock. The Company will use its best efforts to achieve the authorization, and take all requisite action on the part of the Company, its officers, directors and stockholders necessary for said authorization, of sufficient shares of Common Stock to issue to Purdue all Common Shares and Warrants issuable pursuant to this Agreement as soon as practicable after the Initial Closing. Purdue will cooperate with the Company and hereby consents to any amendment of the Company's Certificate of Incorporation which seeks to increase the number of authorized shares of Common Stock up to 225,000,000 shares and agrees to execute all necessary written consents, proxies, and or powers of attorney in connection with any action to be taken at the meeting of Company Stockholders or by written consent of Company stockholders to effect such amendment.

8.2 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 exercise of each Warrant issued to Purdue, such number of shares of Common Stock as shall from time to time equal 100% of the number of shares sufficient to permit the exercise of each Warrant issued pursuant to this Agreement in accordance with their respective terms, without regard to any exercise limitations contained therein.

8.3 Final Subsequent Closing. The Company shall use its best efforts to complete the Final Subsequent Closing on or prior to Exclusive Negotiation Period.

8.4. Exclusivity and Right of First Refusal.

(a) Exclusivity

(i) From the date of the Initial Closing until the receipt by Purdue from the Company of the Data and Analysis (as defined in subsection 8.4(c)(ii) below) of the Phase 3 clinical trial portion of the Novelos Trials (as defined in the Collaboration Agreement) in the United States ("Exclusive Negotiation Period"), the Company shall not negotiate with any third party other than Purdue for (A) the license or other acquisition of NOV-002 Rights (defined below) in the United States (the "Proposed Transaction") or (B) any transaction which would terminate the Rights of First Refusal Period set forth in subsection 8.4(c)(iii) below.

(ii) The Company and Purdue agree that during the Exclusive Negotiation Period, neither the Company nor any of its affiliates, or any of its or their respective directors, officers, employees, financial advisors or counsel, agents or representatives or any other party retained or engaged by the Company or any affiliate of the Company to assist in the analysis, the arranging, brokering, financing, negotiation or consummation of the Proposed Transaction at any time will (either directly or through any intermediary) solicit, entertain offers or bids from, respond to, negotiate with or consider any offer, bid or proposal of any other person for a transaction that would conflict with or impede the Proposed Transaction in any respect, or provide any non-public information to any third party in connection with such an offer, bid or proposal except to the extent to respond to unsolicited offers, bids or proposals as required by law, including the fiduciary duties of the Board of Directors of the Company.

(iii) Until the first to occur of (A) such time as the Company is permitted to proceed with the transaction proposed by the Offeror (as defined below) pursuant to Section 8.4(b)(i)(3), or (B) the end of the Right of First Refusal Period, the Company will (a) reasonably cooperate with Purdue to provide access to Purdue of the Company's books and records, and all other relevant documents and data, in each case, to the extent related to the Proposed Transaction, (b) prepare, file, prosecute and maintain all of its patents related to NOV-002 in the United States, and (c) keep Purdue informed, in a timely manner, of material communications, notifications or other information which it receives or provides (directly or indirectly) with respect to NOV-002 or related patents and intellectual property with any regulatory authority in the United States, including, without limitation, the United States Patent and Trademark Office and the United States Food and Drug Administration.

(iv) In the event any negotiations between the Company and Purdue during such Exclusive Negotiation Period results in a bona fide agreement in principle on terms to be set forth in a definitive agreement, the Company will grant Purdue an option, at no cost other than as specified in such agreement, to enter into such definitive agreement, such option to terminate upon the 30th day, or such longer period as agreed to between the Company and Purdue, following the end of the Exclusive Negotiation Period.

(b) Right of First Refusal

(i) In the event that a definitive agreement for the license or acquisition by Purdue of NOV-002 Rights is not entered into during the Exclusive Negotiation Period, the Company will not enter into a definitive agreement to license, sell or otherwise grant the NOV-002 Rights, in whole or in part, to a party other than Purdue during the Right of First Refusal Period (defined below) except in accordance with the following procedure:

(1) Within 10 business days of approval by the Company's Board of Directors of a bona fide offer of a third party to license or otherwise acquire NOV-002 Rights (a "Bona Fide Offer") during the Right of First Refusal Period, the Company shall communicate all material terms of the Bona Fide Offer (but not the identity of the third party making the Bona Fide Offer (the "Offeror")) to Purdue.

(2) Purdue shall have 30 days, or such longer period as agreed to between the Company and Purdue, to enter into a definitive agreement with the Company to acquire the NOV-002 Rights on substantially the same terms, which provide no lesser economic benefit to the Company, as set forth in the Bona Fide Offer. For the avoidance of doubt, neither Purdue nor the Company shall have the right to negotiate a more favorable provision for itself than the provision as set forth in the Bona Fide Offer. If any usual or customary license provisions are not set forth in the Bona Fide Offer, such provisions shall be negotiated in good faith.

(3) If the definitive agreement is not entered into by Purdue and the Company within 30 days, or such longer period as agreed to between the Company and Purdue, of Purdue's receipt from the Company of the terms of the Bona Fide Offer, then the Company may proceed with the transaction proposed by the Offeror on terms no less favorable to the Company than the terms set forth in the Bona Fide Offer. If a definitive agreement for such transaction with the Offeror is not entered into between the Company and the Offeror within 60 days then the Company must re-offer the Bona Fide Offer to Purdue pursuant to the procedures set forth in this Section 8.4(b)

(c) Section 8.4 Definitions

(i) The term "NOV-002 Rights" means the rights to research, register, develop, make, have made, use, warehouse, promote, market, sell, have sold, import, distribute, and offer for sale NOV-002 in the United States.

(ii) The term "Data and Analysis" means the final tables, listings and figures, set forth in a letter to Purdue of even date herewith, from the Phase 3 clinical trial portion of the Novelos Trials (as defined in the Collaboration Agreement) in the United States. The Data and Analysis will be provided to Purdue by the Company as soon as practically possible after the Company's verification of such Data and Analysis, and in accordance with the endpoints in the pre-specified Statistical Analysis Plan in the Special Protocol Assessment agreed with the United States Food and Drug Administration.

(iii) The term "Right of First Refusal Period" means that period of time commencing as of the date of the Initial Closing and terminating upon the later of (1) the closing or effectiveness of a Business Combination transaction and (2) the end of the Exclusive Negotiation Period. For the avoidance of doubt, the Company may enter into a definitive agreement for a Business Combination transaction subject to Section 8.4(a) but the Right of First Refusal Period will not terminate until the later of (1) the closing or effectiveness of such Business Combination transaction and (2) the end of the Exclusive Negotiation Period.

(d) Disclosure

Except as and to the extent required by law, without the prior written consent of the other party, neither Purdue nor the Company will, and each will direct and cause its officers, directors, employees, attorneys, accountants and other agents and representatives not to, directly or indirectly, make any public comment, statement or communication with respect to, or otherwise publicly disclose or permit the public disclosure of any of the terms, conditions or other aspects of the Proposed Transaction which may be under negotiation between the parties during the Exclusive Negotiation Period or Right of First Refusal Period. If a party is required by law to make any such disclosure, it shall first provide to the other party the content of the proposed disclosure, the reasons such disclosure is required by law and the time and place the disclosure will be made and the opportunity to consult with respect thereto. Disclosure shall be made only of that part of information that counsel advises that the party is legally required to disclose.

(e) Termination of Rights

In the event Purdue fails to pay for any Common Shares and Warrants at a Subsequent Closing in compliance with Section 4.3, for which the Company has satisfied all conditions to Purdue's obligation to close, as set forth in Section 7.1, and such failure to pay continues for ten (10) business days after the Company gives Purdue a written notice, as provided in Section 10.5, of such failure, the Rights of Exclusivity and the Right of First Refusal provided in this Section 8.4 shall be immediately null and void and of no further effect.

8.5. 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 Purdue under the Transaction Documents.

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

8.7. 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.

8.8. Termination of Certain Covenants. The provisions of Sections 8.5 through 8.7 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 8.1 through 8.4 and Sections 8.9 through 8.21 shall survive indefinitely.

8.9. Board Seat and Board Observer Rights. From and after the Initial Closing until the later of such time as Purdue or its Associated Companies are no longer (i) a Requisite Holder (as defined in the Certificate of Designations, Preferences and Rights of Series E Convertible Preferred Stock executed by the Company as of February 11, 2009) and (ii) holders of at least fifty percent (50%) of the Common Shares issued and sold to Purdue pursuant to this Agreement, Purdue shall have the continuing right to designate one (1) member to the Company's Board of Directors (the "**Purdue Director**"). The Company shall use its best efforts to cause the Purdue Director to be elected to the Company's Board of Directors. During any period of time that Purdue has a right to designate a member to the Company's Board of Directors and such person is not a member of the Company's Board of Directors, Purdue shall have the continuing 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 "**Purdue Observer**"). The Purdue Observer shall have the same rights as those who customarily attend such position. Notwithstanding the foregoing, the Company reserves the right to exclude the Purdue Observer from access to any material, meeting or portion thereof if the Company reasonably believes, that such access could result in a conflict of interest due to the actions of Purdue or its Associated Companies that trigger the right of the Company to terminate the Collaboration Agreement pursuant to Section 13.2.1 thereof, or believe, on advice of its counsel, that such exclusion is necessary to preserve attorney-client, work product or similar privilege. The Purdue 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 Purdue 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 Purdue Observer shall execute a standard confidentiality agreement prior to attending any meetings. The Purdue Observer as of the Initial Closing is Jim Dolan. The Company shall indemnify the Purdue Director to the same extent the Company indemnifies all other members of the Company's Board of Directors, in addition to any and all indemnification of the members of the Company's Board of Directors required pursuant the Company's Certificate of Incorporation, as amended, and its By-laws, as amended. The Company shall reimburse the Purdue Director or Purdue Observer expenses incurred by the Purdue Director or Purdue Observer in connection with its activities relating to the Company's Board of Directors. This Section 8.9 supersedes in its entirety Section 8.7 of the Series E SPA.

8.10. Trading. The Company shall promptly, following each Closing, take all actions necessary and continue to take all actions necessary as contemplated in this Agreement or otherwise to ensure that the Common Shares and the Warrant Shares are authorized to be traded on the OTCBB, including the timely filing of all SEC Filings as required under Section 8.17.

8.11. Use of Proceeds. The Company will use the proceeds from the sale of the Securities to fund its operating activities pursuant to the budget set forth in **Schedule 8.11**. The Company shall not use the proceeds from the sale of the Securities for (i) the repayment of any outstanding indebtedness for borrowed money of the Company, (ii) redemption or repurchase of any of the Company's equity securities. Furthermore, until the Company submits the New Drug Application concerning the use of NOV-002 for non-small cell lung cancer to the U.S. Food and Drug Administration, the Company shall not use its current assets or the proceeds from the sale of the Securities for (A) clinical activities other than those (x) relating to the Novelos Trials (as defined in the Collaboration Agreement, (y) approved by the JCC (as defined in the Collaboration Agreement) and (z) relating to the New Drug Application concerning the use of NOV-002 for non-small cell lung cancer or (B) the payment of salaries, bonuses or other compensation other than those amounts set forth in **Schedule 8.11**. This Section 8.11 supersedes in its entirety Section 8.9 of the Series E SPA.

8.12 Press Release; Form 8-K Filing. 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 Purdue, announcing the transactions contemplated by the Transaction Documents (the "**Press Release**"). The Company will file a Current Report on Form 8-K (the "**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 and the form of Warrant)). The 8-K will be filed within four (4) Business Days of signing of this Agreement.

8.13. Furnishing of Information. As long as Purdue own 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 Purdue owns Common Shares, the Warrant 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 Common 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 Purdue may reasonably request, all to the extent required from time to time to enable Purdue to sell the Common Shares and Warrant Shares without registration under the 1933 Act and without the volume restrictions imposed by Rule 144.

8.14. Buy-In. If the Company shall fail for any reason or for no reason to issue to Purdue 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 Purdue, if on or after the Business Day immediately following such three (3) Business Day period, Purdue or Purdue's broker, acting on behalf of Purdue, 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 Purdue anticipated receiving from the Company without any restrictive legend, then the Company shall, within three (3) Business Days after Purdue's request and in Purdue's sole discretion, either (i) pay cash to Purdue in an amount equal to Purdue'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 Purdue a certificate or certificates representing such shares of Common Stock and pay cash to Purdue 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.

8.15. No Integration. Neither the Company nor any of its Affiliates, nor any Person acting on its or their behalf shall, directly or indirectly, make any offers or sales of any Company security or solicit 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.

8.16. SEC Filings. The Company shall timely file all SEC Filings and ensure that they comply as to form in all material respects with the requirements of the 1934 Act and do 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 are made, not misleading.

8.17. Financial Statements. The financial statements of the Company included in each SEC Filing shall 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 shall be 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, the Company has not 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.

8.18. Compliance with Applicable Law. The Company shall use its best efforts (i) to comply in all material respects with all statutes, laws, regulations, rules, judgments, orders and decrees of all governmental entities applicable to it that relate to its business, (ii) to maintain all permits that are required in order to permit it to carry on its business as it is presently conducted and (iii) to comply in all material respects with all applicable provisions of the Sarbanes-Oxley Act of 2002.

8.19. Warrant Expiration Notice. The Company will use best efforts to send Purdue a notice 30 days in advance of the expiration of the Warrant.

8.20. Cooperation. The Company agrees to use commercially reasonable efforts to cooperate with Purdue in selling its Securities pursuant to Rule 144.

8.21. Exemption from Investment Company Act of 1940. The Company shall conduct its business in a manner so that it will not become subject to the Investment Company Act of 1940.

9. Survival and Indemnification.

9.1. Survival. Subject to Section 8.8, 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 Dates until the third anniversary thereof; provided, however, that the provisions contained in: (a) Sections 5.4, 9.1, 9.2, 9.3, and Article 10 hereof shall survive indefinitely; and (b) Sections 5.10 and 5.15 shall survive until 90 days after the applicable statute of limitations.

9.2. Indemnification. The Company agrees to indemnify and hold harmless, Purdue and its Associated Companies and the directors, officers, employees and agents of Purdue and its Associated Companies, 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.

9.3. 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 9.2, 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.

10. Miscellaneous.

10.1. Right of Purdue to Participate in Future Transactions. Purdue will have a right to participate, on the terms and conditions set forth in this Section 10.1, in all sales by the Company of any of Common Stock or Common Stock Equivalents in each capital raising transaction, if any, that occurs at any time when any Preferred Stock, Common Stock issued pursuant to this Agreement, including Warrant Shares, remain outstanding (in whole or in part) and are owned by Purdue or its Associated Companies, other than (i) any such sale that is a public offering underwritten on a firm commitment basis and registered with the SEC under the 1933 Act with proceeds to the Company of at least twenty (20) million U.S. Dollars, or (ii) an Exempt Issuance. For any such transaction during such period, the Company shall give at least ten (10) Business Days advance written notice to Purdue prior to any offer or sale of any of the Company's securities in such transaction by providing to Purdue a term sheet which (i) contains all significant business terms of such proposed transaction, (ii) is sufficiently detailed so as to reasonably permit Purdue the opportunity to determine whether or not to exercise its rights under this Section 10.1 and (iii) is at least as detailed as the term sheet or summary of such transaction as the Company shall furnish to any offeree or broker in such transaction. Purdue shall have the right to participate in such proposed transaction and to purchase its and its Associated Companies' Pro Rata Share of such securities which are the subject of such proposed transaction for the same consideration and on the same terms and conditions as contemplated for sales to third parties in such transaction (or such lesser portion thereof as specified by Purdue). If Purdue elects to exercise its rights hereunder for a particular transaction, it shall deliver written notice to the Company within ten (10) Business Days following receipt from the Company of the notice and term sheet meeting the requirements of this Section 10.1, which notice from Purdue shall be conditional upon (i) Purdue's receipt of satisfactory definitive documents for such transaction from the Company if the Company has not furnished final, definitive documents for such transaction to Purdue at or before the time the Company gives such notice of such transaction to Purdue, and (ii) the satisfaction of the other conditions precedent to the obligations of purchasers generally in such transaction to complete such transaction. If, subsequent to the Company giving notice to Purdue hereunder but prior to any of (a) Purdue exercising its right to participate, (b) the expiration of the four Business Day period without response from Purdue or (c) the rejection of such offer for such financing by Purdue, the terms and conditions of the proposed sale to third parties in such transaction are changed from those disclosed in the term sheet provided to Purdue, the Company shall be required to provide a new notice and term sheet meeting the requirements of this Section 10.1, reflecting such revised terms, to Purdue hereunder and Purdue shall have the right, which must be exercised within ten (10) Business Days of the date Purdue receives such new notice and such revised term sheet, to exercise its rights to purchase the securities on such changed terms and conditions and otherwise as provided hereunder. If Purdue does not exercise its rights hereunder with respect to a proposed transaction within the period or periods provided, or affirmatively declines to engage in such proposed transaction with the Company, then the Company may proceed with such proposed transaction on the same terms and conditions as noticed to Purdue (assuming Purdue has consented to the transaction, if required, pursuant to this Agreement and such transaction does not violate any other term or provision of the Transaction Documents), provided that if such proposed transaction is not consummated within 180 days following the Company's notice hereunder or the terms and conditions of the proposed sale to third parties are changed from those disclosed in the term sheet, then the rights hereunder shall again be afforded to Purdue for such proposed transaction. The rights and obligations of this Section 10.1 shall in no way limit or restrict the other rights of Purdue pursuant to this Agreement. Notwithstanding anything herein to the contrary, failure of Purdue to affirmatively elect in writing to participate in any proposed transaction within the required time frames shall be deemed to be the equivalent of Purdue's decision not to participate in such proposed transaction. Notwithstanding the foregoing, this Section 10.1 shall not apply in respect of an Exempt Issuance. The rights of Purdue under this Section 10.1 shall apply to all capital raising transactions described in Section 10.1 that occur during the period specified in this Section 10.1. This Section 10.1 supersedes in its entirety Section 10.1 of the Series E SPA.

10.2. Successors and Assigns. This Agreement may not be assigned by a party hereto without the prior written consent of the Company and Purdue; provided, however, that Purdue may assign its rights and delegate its duties hereunder in whole or in part to a third party acquiring some or all of its Securities in a private transaction with the prior written consent of the Company, after notice duly given by Purdue to the Company, such consent not to be reasonably withheld by the Company and that no such assignment or obligation shall affect the obligations of Purdue hereunder; and provided further that Purdue may assign its rights and delegate its duties hereunder in whole or in part to an Associated Company acquiring some or all of its Securities in a private transaction without the prior written consent of the Company, after notice duly given by Purdue to the Company and that no such assignment or obligation shall affect the obligations of Purdue 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 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.

10.3. 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.

10.4. 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.

10.5. 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
USA
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
USA
Attn: Paul Bork
Fax: (617) 832-7000

If to Purdue:

Purdue Pharma L.P.
One Stamford Forum
201 Tresser Blvd.
Stamford, CT 06901-3431
USA
Attention: Edward B. Mahony, Chief Financial Officer

With a copy to:

Chadbourne & Parke LLP
30 Rockefeller Plaza
New York, New York 10112
USA
Telefacsimile: (212) 541-5369
Attention: Stuart D. Baker

10.6. [Reserved.]

10.7. 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 Purdue**.** Any amendment or waiver effected in accordance with this Section 10.7 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.

10.8. Publicity. Except as provided in Section 10.8, no public release or announcement concerning the transactions contemplated hereby shall be issued by the Company or Purdue without the prior consent of the Company (in the case of a release or announcement by Purdue) or Purdue (in the case of a release or announcement by the Company) (which consents shall not be unreasonably delayed or 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 Purdue, as the case may be, shall allow the other, to the extent reasonably practicable in the circumstances, reasonable time to comment on such release or announcement in advance of such issuance.

10.9. 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.

10.10. 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.

10.11. 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.

10.12. 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 PURDUE 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 Page Follows]

Signature Page

IN WITNESS WHEREOF, each of 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

PURDUE PHARMA L.P.

By: Purdue Pharma Inc.,
its general partner

By: /s/ John H. Stewart
Name: John H. Stewart
Title: President,
Chief Executive Officer

Exhibits

Exhibit A	[Reserved.]
Exhibit B	Form of Warrant
Exhibit C	Form of Company Counsel Opinion
Exhibit D	Form of Purchaser Questionnaire
Exhibit E	Form of Registration Rights Agreement

Schedules

Schedule 4.2	Company Wire Instructions
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 5.16	Litigation
Schedule 5.19	Brokers and Finders
Schedule 5.24	Affiliate Transactions
Schedule 5.28	Indebtedness
Schedule 8.11	Novelos Budget

Exhibit B

Form of Warrant

(Included as Exhibit 10.43 to this filing)

Exhibit C

Form of Company Counsel Opinion

Seaport World Trade Center West
155 Seaport Boulevard
Boston, MA 02210-2600

617 832 1000 *main*
617 832 7000 *fax*

August 25, 2009

Purdue Pharma L.P.
One Stamford Forum
201 Tresser Blvd.
Stamford, CT 06901-3431

Re: Securities Purchase Agreement

Ladies and Gentlemen:

We have acted as counsel for Novelos Therapeutics, Inc., a Delaware corporation (the "Company"), in connection with the execution and delivery of (i) the Securities Purchase Agreement by and between Purdue Pharma L.P. (the "Purchaser") and the Company dated as of the date hereof (the "Purchase Agreement") and (ii) the Registration Rights Agreement between the Purchaser and the Company dated as of the date hereof (the "Registration Rights Agreement" and, together with the Purchase Agreement, the "Transaction Documents"). The Purchase Agreement provides for the issuance and sale by the Company at one or more closings of an aggregate of (i) up to 13,636,364 shares of Common Stock, par value $0.00001 per share (the "Common Stock"); and (ii) warrants to acquire approximately 4,772,728 shares of Common Stock, with an exercise price of $0.66 per share. The shares of Common Stock issuable upon exercise of a warrant are referred to herein as the "Warrant Shares". All terms used herein have the meanings defined for them in the Purchase Agreement unless otherwise defined herein.

This opinion is furnished to you in connection with the Closing of the issuance and sale of 5,303,030 shares of Common Stock ("the Shares") and a warrant to purchase 1,856,062 shares of Common Stock (the "Warrant") on the date hereof pursuant to the Purchase Agreement. In rendering the opinions expressed below, we have examined originals or copies of: (i) the Transaction Documents, (ii) the Warrant, (iii) the Company's Certificate of Incorporation, as amended through the date hereof ("Certificate of Incorporation"), (iv) the Company's By-laws, as in effect on the date hereof (the "By-laws"), (v) a Secretary's Certificate from the Company, dated as of the date hereof, issued pursuant to Section 7.1(h) of the Purchase Agreement and (vi) a Certificate executed by the Company's Chief Executive Officer or its Chief Financial Officer, dated as of the date hereof, and issued pursuant to Section 7.1(g) of the Purchase Agreement, and we have examined and considered such corporate records, certificates and matters of law as we have deemed appropriate as a basis for our opinions set forth below. In rendering the opinions expressed below, we have relied, as to factual matters, upon the representations and warranties of the Company contained in the Transaction Documents.

The opinions expressed herein are subject to the following assumptions, limitations, qualifications and exceptions:

(a) We have made such legal and factual examinations and inquiries as we have deemed advisable or necessary for the purpose of rendering this opinion.

(b) We have examined, among other things, originals or copies of such corporate records of the Company, certificates of public officials and such other documents and questions of law that we consider necessary or advisable for the purpose of rendering this opinion. In such examination we have assumed the genuineness of all signatures or original documents, the authenticity and completeness of all documents submitted to us as originals, the conformity to original documents of all copies submitted to us as copies thereof, the legal capacity of natural persons, and the due execution and delivery of all documents (except as to due execution and delivery by the Company) where due execution and delivery are a prerequisite to the effectiveness thereof.

(c) For purposes of this opinion, we have assumed that you have all requisite power and authority, and have taken any and all necessary corporate action, to execute and deliver the Transaction Documents, and that the representations and warranties made by the Purchaser in the Transaction Documents and pursuant thereto are true and correct.

(d) Our opinion is based upon our knowledge of the facts as of the date hereof and assumes no event will take place in the future which would affect the opinions set forth herein other than future events contemplated by the Transaction Documents. We assume no duty to communicate with you with respect to any change in law or facts which comes to our attention hereafter.

(e) In rendering the opinion in paragraph 1 below with respect to legal existence and good standing of the Company in the State of Delaware, we have relied solely upon a certificate of the Secretary of State of Delaware and we express such opinion as of the date of such certificate. In rendering the opinion in paragraph 1 below with respect to the qualification and good standing of the Company in The Commonwealth of Massachusetts, we have relied solely upon a certificate of the Secretary of State of Massachusetts and we express such opinion as of the date of such certificate. We express no opinion as to the tax good standing of the Company in any jurisdiction.

We have made such examination of Massachusetts law, United States federal law, and the Delaware General Corporation Law (the "DGCL") as we have deemed necessary for the purpose of this opinion. In rendering opinions concerning the DGCL, we have, with your consent, relied exclusively upon a review of published statutes. We express no opinion herein as to the laws of any jurisdiction other than The Commonwealth of Massachusetts, the federal laws of the United States of America and the DGCL. We note that the Transaction Documents and the Warrant purport to be governed by the laws of the State of New York. To the extent that any of the opinions expressed above relate to or may require application of any law of the State of New York, we have assumed, with your permission, that the applicable New York law is substantively the same in all material respects as Massachusetts law.

The opinions expressed herein are qualified to the extent that (1) the enforceability of any provisions of the Transaction Documents or any instrument or of any right granted thereunder may be subject to or affected by any bankruptcy, reorganization, insolvency, fraudulent conveyance, moratorium or other similar law of general application relating to or affecting the rights or remedies of creditors generally, which law may be in effect from time to time; (2) the remedy of specific performance or any other equitable remedy may be unavailable or may be withheld as a matter of judicial discretion; (3) equitable principles and principles of public policy may be applied in construing or enforcing the provisions of the Transaction Documents or of any other agreement, instrument or document; and (4) the enforceability, validity or binding effect of any remedial provision of the Transaction Documents may be limited by applicable law which may limit particular rights and remedies. In addition, the opinions expressed herein are subject to the qualification that the enforcement of any of your rights are in all cases subject to your implied duty of good faith and fair dealing.

We express no opinion herein as to the validity or enforceability of any provision of the Transaction Documents or any other instrument or document to the extent that such provision purports to (1) constitute a waiver by the Company of any constitutional right, or of any statutory right except where advance waiver is expressly permitted by the relevant statute; (2) require the Company to indemnify or to hold harmless you or any other person or entity from the consequences of any negligent or other wrongful act or omission of you or such other person or entity; (3) provide for indemnification or contribution by the Company in connection with the Transaction Documents, the transactions contemplated thereby or otherwise to the extent such indemnification or contribution may be limited by applicable laws or as a matter of public policy; or (4) constitute a waiver of any right to a hearing on or adjudication of any issue or the right to trial by jury.

In connection with the preparation of this opinion, we have not made any independent review or investigation of any court or agency docket or other litigation papers or of any judgment, order, decree, ruling or decision of any governmental commission, bureau or other regulatory authority or agency applying primarily to the Company, nor have we made any independent investigation as to the existence of any actions, suits, investigations or proceedings, if any, pending or threatened against the Company, the Purchaser or any other person or entity.

As used in the opinions expressed throughout, the phrase “to our knowledge,” means the actual knowledge of any of the lawyers within our firm who have worked on the transactions contemplated by the Transaction Documents, without any special investigation with respect to the matter as to which any such opinion is so qualified.

As you are aware, the Company’s ability to issue and sell shares of Common Stock and execute and deliver warrants to purchase shares of Common Stock at any Subsequent Closing is subject to and conditioned on the availability at the time of a Subsequent Closing of sufficient additional authorized, unissued and unreserved shares of Common Stock. Accordingly, at this time we express no opinion as to the Company’s performance under the Purchase Agreement with regard to the issuance and sale of shares of Common Stock, or the execution and delivery of any warrant to purchase shares of Common Stock, at any Subsequent Closing.

Based upon and subject to the foregoing, we are of the opinion that:

1. The Company is a corporation validly existing and in good standing under the laws of the State of Delaware and has all requisite corporate power and authority to carry on its business as described in the SEC Filings, and to enter into and perform its obligations under the Transaction Documents and the Warrant. The Company is qualified as a foreign corporation to do business and is in good standing in The Commonwealth of Massachusetts.

2. The authorized capital stock of the Company consists of 150,000,000 shares of Common Stock and 7,000 shares of preferred stock, $.00001 par value per share.

3. The execution, delivery and performance by the Company of the Transaction Documents and the Warrant, the issuance of the Shares, and the issuance of the Warrant Shares upon due exercise of the Warrant 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.

4. Each of the Transaction Documents and the Warrant 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.

5. The execution and delivery by the Company of each of the Transaction Documents and the Warrant, the issuance of the Shares, the issuance of the Warrant Shares upon due exercise of the Warrant and the performance by the Company of the Transaction Documents and the Warrant will not violate or contravene or be in conflict with (a) any provision of the Certificate of Incorporation or By-laws; (b) any provision of the DGCL or any provision of any United States federal or Massachusetts law, rule or regulation applicable to the Company in transactions of the nature contemplated by the Transaction Documents and the Warrant; (c) any order, judgment or decree of any court or other governmental agency specifically naming the Company which is known to us and which is binding on the Company; or (d) any agreement, indenture or other instrument to which the Company is a party which has been identified as a material agreement in the certificate of the Chief Executive Officer of the Company attached hereto (collectively, "Material Agreements") or cause any acceleration under, or cause the creation of any lien, charge or encumbrance upon the property or assets of the Company pursuant to, any of the 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 United States federal or Massachusetts governmental authority or pursuant to the DGCL or from any other Person under any Material Agreement in order for it to execute and deliver each of the Transaction Documents and the Warrant, to issue the Shares, to issue the Warrant Shares upon due exercise of the Warrant 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 any requisite state authority.

7. Upon payment as provided in the Purchase Agreement, the Shares will be validly issued, fully paid and nonassessable. Upon issuance and delivery following due exercise in accordance with the Warrant, the Warrant Shares will be validly issued, fully paid and nonassessable.

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

9. The issuance of the Shares and the issuance of the Warrant Shares upon due exercise of the Warrant are not subject to any preemptive or similar statutory rights under the General Corporation Law of the State of Delaware, the Certificate of Incorporation or the By-laws, or similar contractual rights granted by the Company (except for any such contractual rights as have been waived) pursuant to any Material Agreement.

10. The Company is not, and as a result of and immediately upon consummation of the transactions contemplated herein will not be an "investment company" within the meaning of the Investment Company Act of 1940, as amended.

This opinion shall be interpreted in accordance with the Legal Opinions Principles issued by the Committee on Legal Opinions of the American Bar Association's Business Law Section as published in 53 Business Lawyer 831 (May 1998).

This opinion is furnished to the Purchaser solely for its benefit in connection with the transactions described above and, except as otherwise expressly set forth herein, may not be relied upon by any other person or for any other purpose without our prior written consent.

Very truly yours,

FOLEY HOAG LLP

By: _____
A Partner

Exhibit D

Novelos Therapeutics, Inc.
Confidential Purchaser Questionnaire

Before any sale of Securities by Novelos Therapeutics, Inc. can be made to you, this Questionnaire must be completed and returned to Novelos Therapeutics, One Gateway Center, Suite 504, Newton, MA 02458; Attention: Joanne Protano.

1. IF YOU ARE AN INDIVIDUAL PLEASE FILL IN THE IDENTIFICATION QUESTIONS IN (A) IF YOU ARE AN ENTITY PLEASE FILL IN THE IDENTIFICATION QUESTIONS IN (B)

A. INDIVIDUAL IDENTIFICATION QUESTIONS

Name
(Exact name as it should appear on stock certificate)

Residence Address

Home Telephone Number

Fax Number

Date of Birth

Social Security Number

B. IDENTIFICATION QUESTIONS FOR ENTITIES

Name (Exact name as it will appear on stock certificate)

Address of Principal Place of Business

State (or Country) of Formation or Incorporation

Contact Person

Telephone Number ( )

Type of Entity
(corporation, partnership, trust, etc.)

Was entity formed for the purpose of this investment? Yes: ____ No: ____

2. **DESCRIPTION OF INVESTOR**

The following information is required to ascertain whether you would be deemed an "accredited investor" as defined in Rule 501 of Regulation D under the Securities Act. Please check whether you are any of the following:

☐ a corporation or partnership with total assets in excess of $5,000,000, not organized for the purpose of this particular investment

☐ private business development company as defined in Section 202(a)(22) of the Investment Advisers Act of 1940, a U.S. venture capital fund which invests primarily through private placements in non-publicly traded securities and makes available (either directly or through co-investors) to the portfolio companies significant guidance concerning management, operations or business objectives

☐ a Small Business Investment Company licensed by the U.S. Small Business Administration under Section 301(c) or (d) of the Small Business Investment Act of 1958

☐ an investment company registered under the Investment Company Act of 1940 or a business development company as defined in Section 2(a)(48) of that Act

☐ a trust not organized to make this particular investment, with total assets in excess of $5,000,000 whose purchase is directed by a sophisticated person as described in Rule 506(b)(2)(ii) of the Securities Act of 1933 and who completed item 4 below of this questionnaire

☐ a bank as defined in Section 3(a)(2) or a savings and loan association or other institution defined in Section 3(a)(5)(A) of the Securities Act of 1933 acting in either an individual or fiduciary capacity

☐ an insurance company as defined in Section 2(13) of the Securities Act of 1933

☐ an employee benefit plan within the meaning of Title I of the Employee Retirement Income Security Act of 1974 (i) whose investment decision is made by a fiduciary which is either a bank, savings and loan association, insurance company, or registered investment advisor, or (ii) whose total assets exceed $5,000,000, or (iii) if a self-directed plan, whose investment decisions are made solely by a person who is an accredited investor and who completed Part I of this questionnaire;

☐ a charitable, religious, educational or other organization described in Section 501(c)(3) of the Internal Revenue Code, not formed for the purpose of this investment, with total assets in excess of $5,000,000

☐ an entity not located in the U.S. none of whose equity owners are U.S. citizens or U.S. residents

☐ a broker or dealer registered under Section 15 of the Securities Exchange Act of 1934

☐ a plan having assets exceeding $5,000,000 established and maintained by a government agency for its employees

☐ an individual who had individual income from all sources during each of the last two years in excess of $200,000 or the joint income of you and your spouse (if married) from all sources during each of such years in excess of $300,000 and who reasonably excepts that either your own income from all sources during the current year will exceed $200,000 or the joint income of you and your spouse (if married) from all sources during the current year will exceed $300,000

☐ an individual whose net worth as of the date you purchase the securities offered, together with the net worth of your spouse, be in excess of $1,000,000

☐ an entity in which all of the equity owners are accredited investors

3. **BUSINESS, INVESTMENT AND EDUCATIONAL EXPERIENCE**

Occupation

Number of Years

Present Employer

Position/Title

Educational Background

Frequency of prior investment (check one in each column):

	Stocks & Bonds	**Venture Capital Investments**
Frequently		
Occasionally		
Never		

4. **SIGNATURE**

The above information is true and correct. The undersigned recognizes that the Company and its counsel are relying on the truth and accuracy of such information in reliance on the exemption contained in Subsection 4(2) of the Securities Act of 1933, as amended, and Regulation D promulgated thereunder. The undersigned agrees to notify the Company promptly of any changes in the foregoing information which may occur prior to the investment.

Executed at _____, on _____, 2009

_____
(Signature)

Exhibit E

Form of Registration Rights Agreement

(Included as Exhibit 10.42 to this filing)

Schedule 4.2

Wiring Instructions

Bank:	Citizens Bank RI
Bank Address:	1 Citizens Drive, Riverside, RI 02915, USA 617-527-8059
Account Name:	Novelos Therapeutics, Inc.
Account Address:	One Gateway Center, Suite 504 Newton, MA 02458, USA
ABA (Routing) #:	011500120
Swift Code:	CTZIUS33
Account #:	1132895348

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 49,282,145 shares of common stock outstanding and 852.692875 shares of preferred stock outstanding.

5.3(a)(iii) At the date hereof there are 7,279,825 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:

Stock Options	7,279,825
Warrants	31,214,109
Preferred stock (including accumulated dividends as described in schedule 5.3(b) below)	54,444,092
Total shares reserved for future issuance	92,938,026

5.3(a)

As of the date hereof, the Company has the following outstanding warrants:

Offering	Outstanding (as adjusted)	Exercise Price (as adjusted)	Expiration Date
2005 Bridge Loans	720,000	$ 0.625	April 1, 2010
2005 PIPE - Placement agents and finders	762,810	$ 0.65	August 9, 2010
Series A Preferred:			
Investors – September 30, 2005 closing	909,090	$ 0.65	September 30, 2010
Investors – October 3, 2005 closing	60,606	$ 0.65	October 3, 2010
2006 PIPE – Investors and placement agents	5,432,120	$ 1.82	March 7, 2011
Series B Preferred:			
Investors	7,500,000	$ 0.65	December 31, 2015
Placement agents	900,000	$ 1.25	May 2, 2012
Series C Exchange	1,333,333	$ 1.25	May 2, 2012
Series D Preferred	4,365,381	$ 0.65	December 31, 2015
Series E Preferred	9,230,769	$ 0.65	December 31, 2015
Total	31,214,109		

As of the date hereof, the Company has the following outstanding stock options:

Issued pursuant to the 2000 Option Plan	56,047
Issued during 2004 and 2005 pursuant to no formalized plan	2,453,778
Issued pursuant to the 2006 Option Plan	4,770,000
Total outstanding options	7,279,825

As of the date hereof, the Company has the following convertible preferred stock outstanding:

237 shares of Series C Preferred Stock - The shares of Series C preferred stock are convertible into a total of 4,375,384 shares of common stock. The Series C preferred stock has an annual dividend rate of 20%. The dividends are payable quarterly after all outstanding dividends on the Series E Preferred Stock have been paid. Accumulated unpaid dividends through June 30, 2009 total $540,360. An additional $142,200 of dividends will accumulate through September 30, 2009 if there are no conversions of Series C preferred stock before that date. The total dividends of $682,560 would be convertible into an additional 1,050,092 shares of common stock. Additional details regarding the Series C preferred stock may be found in the Certificate of Designations of Series C Cumulative Convertible Preferred Stock and the Agreement to Exchange and Consent dated May 1, 2007.

615.692875 shares of Series E Preferred Stock - The shares of Series E Preferred Stock are convertible any time after issuance at the option of the holder at $0.65 per share of common stock into a total of 47,360,983 shares of common stock. If there is an effective registration statement covering the shares of common stock underlying the Series E Preferred Stock and the VWAP, as defined in the Series E Certificate of Designations, of the Company's common stock exceeds $2.00 for 20 consecutive trading days, then the outstanding Series E 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 E Preferred Stock are entitled to vote on all matters on which the holders of common stock are entitled to vote, subject to certain limitations that may be waived by the Company with 61 days notice . The Series E Preferred Stock has an annual dividend rate of 9%, payable semi-annually on June 30 and December 31. Accumulated unpaid dividends through June 30, 2009 total $1,077,463 and are convertible into an additional 1,657,634 shares of common stock. Such dividends may be paid in cash or in registered shares of the Company's common stock at the Company's option, subject to certain conditions. The Series E 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 the Company's affairs. The holders of the Series E Preferred Stock have certain registration rights that are described in the Registration Rights Agreement dated February 11, 2009, the Registration Rights Agreement dated May 2, 2007 and the Amendments to Registration Rights Agreement dated April 11, 2008 and Feburary 11, 2009. Additional details regarding the Series E Preferred Stock and the rights of the Series E stockholders may be found in Certificate of Designations of Series E Convertible Preferred Stock, the Securities Purchase Agreement dated March 26, 2008, the Securities Purchase Agreement dated February 11, 2009.

As of the date hereof, the following rights existed with respect to shares of common stock issued in connection with the Securities Purchase Agreement dated August 14, 2008:

On August 15, 2008, the Company sold 4,615,384 shares of its common stock to two related accredited investors for gross proceeds of approximately $3 million, pursuant to a securities purchase agreement (the "Common Stock Purchase Agreement") dated August 14, 2008. The Common Stock Purchase Agreement provides that if, prior to the public announcement of the conclusion of the Company's NOV-002 Phase III clinical trial in non-small cell lung cancer (the "Announcement Date"), the Company completes a Subsequent Equity Financing (as defined therein) and the prior holders of shares of our previously outstanding Series D Preferred Stock (the "Series D Shares") receive a reduction in the effective conversion price or exercise price, as applicable, of the Series D Shares or common stock purchase warrants issued in connection with the issuance of the Series D Shares or receive additional shares of common stock, as consideration in connection with any consent given by the holders of the Series D Shares, then the purchasers shall be entitled to receive substantially equivalent consideration, on a proportional basis, in the form of additional shares of common stock based on the formula detailed in the Common Stock Purchase Agreement.

The following is a listing of the Company's documents relating to the rights of stockholders, or holders of securities convertible into or exercisable for the Company's common stock as related to the Company's warrants, stock options, convertible preferred stock and common stock described above.

	EDGAR Reference		
Description	Form	Filing Date	Exhibit No.
Agreement and plan of merger among Common Horizons, Inc., Nove Acquisition, Inc. and Novelos Therapeutics, Inc. dated May 26, 2005	8-K	June 2, 2005	8-K
Agreement and plan of merger between Common Horizons and Novelos Therapeutics, Inc. dated June 7, 2005	10-QSB	August 15, 2005	10-QSB
Certificate of Incorporation	8-K	June 17, 2005	8-K
Certificate of Designations of Series E convertible preferred stock	8-K	February 18, 2009	8-K
Certificate of Designations of Series C cumulative convertible preferred stock	10-QSB	May 8, 2007	10-QSB
By-laws	8-K	June 17, 2005	8-K
2000 Stock Option and Incentive Plan	SB-2	November 16, 2005	10.2

	EDGAR Reference		
Description	Form	Filing Date	Exhibit No.
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 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

Description	EDGAR Reference		
	Form	Filing Date	Exhibit No.
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
Securities Purchase Agreement dated March 26, 2008	8-K	April 14, 2008	10.1
Amendment to Securities Purchase Agreement dated April 9, 2008	8-K	April 14, 2008	10.2
Form of Common Stock Purchase Warrant dated April 11, 2008 issued pursuant to the Securities Purchase Agreement dated March 26, 2008	8-K	April 14, 2008	4.3
Warrant Amendment Agreement dated April 11, 2008	8-K	April 14, 2008	10.5
Amendment to Registration Rights Agreement dated April 11, 2008	8-K	April 14, 2008	10.4
Securities Purchase Agreement dated August 14, 2008	8-K	August 18, 2008	10.1
Securities Purchase Agreement dated February 11, 2009	8-K	February 18, 2009	10.1
Registration Rights Agreement dated February 11, 2009	8-K	February 18, 2009	10.2

	EDGAR Reference		
Description	Form	Filing Date	Exhibit No.
Series D Preferred Stock Consent and Agreement to Exchange dated February 10, 2009	8-K	February 18, 2009	10.3
Warrant Amendment Agreements dated February 11, 2009	8-K	February 18, 2009	10.4
Amendment No. 2 to Registration Rights Agreement dated February 11, 2009	8-K	February 18, 2009	10.5

Schedule 5.3 (continued)

5.3(b) Adjustments

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

NVLT - - Capital Structure - Pro forma for First Closing of Purdue Financing

	Common Stock Equivalents				
	Prior to Transaction	**Pro Forma First Closing**	**Exer./Conv. Price**	**Total cash**	**Warrant Expiration**
Cash, cash equivalents[1]				$ 4,493,124	
Common stock outstanding[2]	49,282,145	54,585,175		$ 3,500,000	
Preferred stock					
Series C[3]	5,425,475	5,425,475	$ 0.65		
Series E[4]	49,018,617	49,018,617	$ 0.65		
Warrants					
2005 Bridge Financing (Pre-IPO)	720,000	720,000	$ 0.625	cashless	April 2010
2005 PIPE Placement Agent	762,810	762,810	$ 0.65	$ 495,827	August 2010
Series C	969,696	969,696	$ 0.65	$ 630,302	October 2010
2006 PIPE[5]	5,432,120	5,559,689	$ 1.78	$ 9,896,246	March 2011
Series C	1,333,333	1,333,333	$ 1.25	cashless	May 2012
Series E	21,996,150	21,996,150	$ 0.65	$14,297,498	12/31/2015
Purdue transaction[6]		1,856,062	$ 0.66	$ 1,225,001	12/31/2015
Stock options outstanding	7,279,825	7,279,825	$ 0.5987	$ 4,358,720	
				$38,896,718	
Fully diluted shares	**142,220,171**	**149,506,832**			

[1] Represents cash at 6/30/09.

[2] Pro forma common stock outstanding includes shares to be issued to Purdue in the First Closing.

[3] Common stock equivalents include sharees that may be issued in payment or conversion of dividends that have accrued through 9/30/09 (dividends payable quarterly)

[4] Common stock equivalents include sharees that may be issued in payment or conversion of dividends that have accrued through 6/30/09 (dividends payable 6/30 &12/31)

[5] Pro forma includes additional warrants to be issued pursuant to anti-dilution provisions; decrease in warrant strike price from $1.82 to $1.78.

[6] Pro forma warrant number consists of warrants to purchase common stock to be issued to Purdue in the First Closing.

5.3(b) Adjustments

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

NVLT - - Capital Structure - Pro forma for Final Closing of Purdue Financing

	Common Stock Equivalents				
	Pro Forma First Closing	**Pro Forma Final Closing**	**Exer./Conv. Price**	**Total cash**	**Warrant Expiration**
Cash, cash equivalents[1]				$ 7,993,124	
Common stock outstanding[2]	54,585,175	62,918,509		$ 5,500,000	
Preferred stock					
Series C[3]	5,425,475	5,425,475	$ 0.65		
Series E[4]	49,018,617	49,018,617	$ 0.65		
Warrants					
2005 Bridge Financing (Pre-IPO)	720,000	720,000	$ 0.625	cashless	April 2010
2005 PIPE Placement Agent	762,810	762,810	$ 0.65	$ 495,827	August 2010
Series C	969,696	969,696	$ 0.65	$ 630,302	October 2010
2006 PIPE[5]	5,559,689	5,750,728	$ 1.72	$ 9,891,252	March 2011
Series C	1,333,333	1,333,333	$ 1.25	cashless	May 2012
Series E	21,996,150	21,996,150	$ 0.65	$14,297,498	12/31/2015
Purdue transaction[6]	1,856,062	4,772,730	$ 0.66	$ 3,150,002	12/31/2015
Stock options outstanding	7,279,825	7,279,825	$ 0.5987	$ 4,358,720	
				$46,316,724	
Fully diluted shares	**149,506,832**	**160,947,873**			

[1] Represents cash at 6/30/09 plus proceeds from the First Closing

[2] Pro forma common stock outstanding includes shares to be issued to Purdue in the Final Closing.

[3] Common stock equivalents include sharees that may be issued in payment or conversion of dividends that have accrued through 9/30/09 (dividends payable quarterly)

[4] Common stock equivalents include sharees that may be issued in payment or conversion of dividends that have accrued through 6/30/09 (dividends payable 6/30 &12/31)

[5] Pro forma includes additional warrants to be issued pursuant to anti-dilution provisions; decrease in warrant strike price from $1.78 to $1.72.

[6] Pro forma warrant number consists of warrants to purchase common stock to be issued to Purdue in the Final Closing.

5.3(c) Arrangements that provide rights for any Person to purchase an equity interest in the Company consist of the stock options and warrants, previously disclosed in schedule 5.3(a).

5.3(d) None.

Schedule 5.5

Consents

In order to complete any Subsequent Closings (as described in Section 4 to this Agreement), the Company will be required to obtain shareholder approval to amend its Certification of Incorporation to increase the number of authorized shares of common stock. A special meeting of shareholders has been scheduled for November 3, 2009 at which time this matter will be voted upon.

Schedule 5.7(a)

Material Adverse Changes

5.7(ii) On August 21, 2009, the Company accepted a tender of an aggregate of 6,947,728 warrants to purchase its common stock in exchange for the issuance of an aggregate of 2,084,308 shares of its common stock. This tender was in accordance with the Invitation to Tender dated July 13, 2009 and sent to holders of a total of 12,379,848 warrants dated March 7, 2006.

5.7(vi) On August 20, 2009, the Company's by-laws were amended in order to implement required notice periods and a protocol for calling shareholder meetings and addressing. shareholder proposals. A copy of such the amended by-laws has been provided to Purdue.

Schedule 5.9

Conflicts

None.

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 5.16

Litigation

None.

Schedule 5.19

Brokers and Finders

None.

Schedule 5.24

Affiliate Transactions

None.

Schedule 5.28

Indebtedness

None.

Schedule 8.11

Novelos Budget

	2009		2010				11
Compound / Indication	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**
NOV-002 / Lung Cancer	Ph3: SPA				NDA	FDA	App
NOV-002 / Breast Cancer	Phase 2						
NOV-002 / Cancers	Additional Phase 2s						
Burn estimate[1]	4.3	4.2	3.5	1.6			
cumulative		8.5	11.9	13.5			
		-					
cash projection/(funding requirement)	0.2	**4.0**	**-7.4**	**-9.0**			
Cash - **6/30/09**	4.5						

[1]Estimated cash burn assumes that vendor obligations outstanding at 6/30/09 are paid in full by 12/31/09 and that estimated costs in the period 7/1/09- 6/30/10 are paid in the quarter in which they are estimated to be incurred. Actual timing of cash payments will depend on a number of factors including when the work is performed and invoiced and when vendor payments are made.

The above burn estimate of $13.5 million includes the following:

Phase 3 NSCLC clinical costs	5.6	(includes the payment of 2.7 in accrued, unpaid costs at 6/30/09)
CMC/regulatory costs	2.2	(CMC/regulatory costs shall follow detailed budget as set forth in letter to Purdue dated 8/25/09)
Non-clinical research	1.9	(Non-clinical costs shall follow detailed budget as set forth in letter to Purdue dated 8/25/09)
Corporate general & administrative costs	1.7	(includes $738,000 in salaries, bonuses and benefits)
R&D general & administrative costs	1.9	(includes $1.5 million in salaries, bonuses and benefits)
Phase 2 clinical	0.2	

Execution Copy

REGISTRATION RIGHTS AGREEMENT

This Registration Rights Agreement (the "**Agreement"**) is made and entered into as of this 25th day of August, 2009 by and among Novelos Therapeutics, Inc., a Delaware corporation (the "**Company**"), Purdue Pharma L.P., a Delaware limited partnership ("**Purdue**") and, together with any holders of Registrable Securities that becomes a party hereto pursuant to 7(c) hereof, the "Holders." Capitalized terms not otherwise defined herein shall have the meanings ascribed thereto in the Securities Purchase Agreement.

WHEREAS, pursuant to a Securities Purchase Agreement dated herewith (the "**Securities Purchase Agreement**") the Company has agreed to issue and sell (the "**Common Shares**") to Purdue, and Purdue has agreed to purchase from the Company, in the aggregate, 13,636,364 shares of the Company's common stock, $0.00001 par value per share (the "**Common Stock**"), and warrants to acquire shares of Common Stock equal to 35% of the aggregate number of shares of Common Stock to be issued and sold to Purdue pursuant to the Closings rounded up to the next even number at each Closing, approximately 4,772,728 shares of Common Stock (the "**Warrants**"), upon the terms and conditions set forth in the Securities Purchase Agreement; and

WHEREAS, the Company has agreed to register the Common Shares and the shares of Common Stock issuable upon exercise of the 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 Purdue together with any holders of Registrable Securities that becomes a party hereto pursuant to 7(c) hereof.

"**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 (i) all the Common Shares issued pursuant to the Securities Purchase Agreement and (ii) the shares of Common Stock issuable upon the exercise of the Warrants, including any shares of Common Stock issued or that become issuable, in respect of any Registrable Security upon exercise of the Warrants, as the case may be, as a result of stock splits, stock dividends or similar transactions with respect to the Common Stock; 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.

2. Registration.

(a) Registration Statement. Promptly following the earlier of the six month anniversary of (i) the Final Subsequent Closing and (ii) the end of the Exclusive Negotiation Period, but in no event after five (5) business days after the earlier of the six month anniversary of (i) the Final Subsequent Closing and (ii) the end of the Exclusive Negotiation Period (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 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 3(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. Notwithstanding the foregoing, in the event that any Subsequent Closings or issuance otherwise of additional Common Shares and Warrants pursuant to the Securities Purchase Agreement occurs after the Filing Deadline, promptly following the three month anniversary of each such Subsequent Closing or aforementioned issuance of additional Common Shares and Warrants, but in no event after five (5) business days after the three month anniversary of each such Subsequent Closing or aforementioned issuance of additional Common Shares and Warrants (each a "**Subsequent Filing Deadline**"), the Company shall prepare and file a Registration Statement on Form S-1 covering the resale of all of the Registrable Securities issued at each such Subsequent Closing or issuance without regard to any limitation on exercise of the Warrants. All penalties contained herein and terms applicable to the Company's failure to file a Registration Statement by the Filing Deadline applies fully to the Company's failure to file the applicable Registration Statement by each applicable Subsequent Filing Deadeline.

(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 and any Subsequent 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 and any Subsequent 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 2, 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 2(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 Purdue.

3 . 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 most recent Subsequent Closing or issuance otherwise of additional Common Shares and Warrants;

(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 3(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 Purdue and its counsel, 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).

4 . 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.

5. 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 earlier of (i) the Final Subsequent Closing Date and (ii) the end of the Exclusive Negotiation Period, with respect to a Registration Statement filed in conjunction with the Filing Deadline, and not prior to 30 days after each Subsequent Closing or issuance with respect to Registration Statements filed in conjunction with each Subsequent Filing Deadline, and not more than 150 days after the earlier of (i) the Final Subsequent Closing Date and (ii) the end of the Exclusive Negotiation Period, with respect to a Registration Statement filed in conjunction with the Filing Deadline, and not more than 60 days after each Subsequent Closing or issuance with respect to Registration Statements filed in conjunction with each Subsequent Filing Deadline. A Holder who fails to furnish a Selling Stockholder Questionnaire within 150 days after each Closing with respect to a Registration Statement filed in conjunction with the Filing Deadline and within 60 days after each Closing with respect to a Registration Statement filed in conjunction with each Subsequent Filing Deadline may have its Registrable Securities excluded from the applicable 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 and 10 days prior (but no more than 30 days prior) to the expiration of such 60 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 6(b) hereof.

6. 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.

7. Miscellaneous.

(a) Amendments and Waivers. This Agreement shall not be amended except by a writing signed by (i) the Company and (ii) Purdue. 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 Purdue.

(b) Notices. All notices and other communications provided for or permitted hereunder shall be made as set forth in 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 in part, to one or more persons and Associated Companies 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.

Purdue Pharma, L.P.
Name of entity

By: Purdue Pharma, Inc. ,
its general partner

By:/s/ John H. Stewart

Name: John H. Stewart
Title: President, Chief Executive Officer

New York
Jurisdiction of organization of entity

Address:

One Stamford Forum
Stamford, CT 06901

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: Matthew Eckert, 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: _____, 2009

_____

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

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 ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS OR BLUE SKY LAWS.

Warrant No. _P2___ Original Issue Date: August 25, 2009

NOVELOS THERAPEUTICS, INC.

FORM OF WARRANT TO PURCHASE 1,856,062 SHARES OF COMMON STOCK, PAR VALUE $0.00001 PER SHARE

FOR VALUE RECEIVED, Purdue Pharma L.P., a Delaware limited partnership (" **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 December 31, 2015 (the "**Expiration Date**"), at an exercise price per share equal to $**0.66** (the exercise price in effect being herein called the "**Warrant Price**"), 1,856,062 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 August 25, 2009, by and among the Corporation and Warrantholder, (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. Notwithstanding the foregoing, the Warrantholder may sell, transfer, assign, pledge or otherwise dispose of the Warrant, in whole or in part, to any of its Associated Companies or any third party subject to, (i) compliance with all applicable securities laws and (ii) the delivery to the Corporation of such documentation to establish that such transfer is being made in accordance with the terms hereof, and as may be reasonably requested by the Corporation and necessary for the Corporation to obtain a legal opinion that such disposition may lawfully be made without registration under the Securities Act. Subject to the foregoing, 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 a new Warrant shall be issued to the transferee and the surrendered Warrant shall be canceled by the Corporation.

Section 3. Exercise of Warrant. 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 Days, 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.

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. 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 11. 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 12. 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 13. 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 14. Registration Rights. The Warrantholder 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 August 25, 2009, by and among the Corporation and certain other parties, including the Warrantholder, and any subsequent holder hereof shall be entitled to such rights to the extent provided in the Registration Rights Agreement.

Section 15. 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 16. 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 17. 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 18. Restrictions on Exercise of Warrant.

(a) Notwithstanding anything herein to the contrary, in no event shall the Warrantholder be entitled to exercise any portion of the Warrant per Section 3 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 Associated Companies (other than shares of Common Stock which may be deemed beneficially owned through ownership of the unexercised Warrant or portion thereof or the unexercised or unconverted portion of any other security of the Warrantholder 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 Associated Companies 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 Associated Companies beneficially own more than 4.99% of the then outstanding shares of Common Stock). The waiver by the Warrantholder 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 18(a) shall not be deemed a waiver or otherwise effect the limitation set forth in this Section 18(a), unless such waiver expressly states it is a waiver of the provisions of this Section 18(a). For purposes of this Section 18(a), 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. The Warrantholder may waive the limitations set forth herein by sixty-one (61) days written notice to the Corporation or immediately preceding a Change of Control of the Corporation. For purposes of Sections 18(a) and 18(b), the term "Change of Control" shall mean (1) any sale, lease or other transfer of substantially all of the Corporation's assets, in one or a series of transactions; (2) 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; (3) if 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 (4) if any person or entity (other than Purdue) 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.

(b) Notwithstanding anything herein to the contrary, in no event shall the Warrantholder be entitled to exercise any portion of the Warrant per Section 3 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 Associated Companies (other than shares of Common Stock which may be deemed beneficially owned through ownership of the unexercised Warrant or portion thereof or the unexercised or unconverted portion of any other security of the Warrantholder 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 Associated Companies 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 Associated Companies beneficially own more than 9.99% of the then outstanding shares of Common Stock). The waiver by the Warrantholder 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 18(b) shall not be deemed a waiver or otherwise effect the limitation set forth in this Section 18(b), unless such waiver expressly states it is a waiver of the provisions of this Section 18(b). For purposes of this Section 18(b), 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. The Warrantholder may waive the limitations set forth herein by sixty-one (61) days written notice to the Corporation or immediately preceding a Change of Control of the Corporation.

Section 19. Amendments. This Warrant shall not be amended without the prior written consent of the Corporation and the Warrantholder.

Section 20. 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.

IN WITNESS WHEREOF, the Corporation has caused this Warrant to be duly executed, as of the 25th day of August, 2009.

NOVELOS THERAPEUTICS, INC.

By: /s/ Harry S. Palmin
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:

_____

_____

_____

Execution Copy

LP Clover Limited
Par La Ville Place
14 Par-La-Ville Road
P.O. Box HM 2332
Hamilton HM JX, Bermuda

August 25, 2009

Harry S. Palmin, President & CEO
Novelos Therapeutics, Inc.
One Gateway Center, Suite #504
Newton, MA 02458

Dear Mr. Palmin:

This letter agreement sets out the understanding of the undersigned concerning a proposed license agreement between LP Clover Limited or one of its affiliates ("Clover") and Novelos Therapeutics, Inc. (the "Company"), under which Clover would receive a license to, or otherwise acquire, the NOV-002 Rights (defined below) in the territory of Canada. Subject to the terms and conditions set forth below, the Company has agreed to grant Clover (i) the right to exclusively negotiate with the Company for the NOV-002 Rights in Canada for a limited period of time, and (ii) the right to enter into a definitive agreement with respect to the NOV-002 Rights on substantially the same terms as a third party offer for the license or acquisition of the NOV-002 Rights.

1. Exclusivity

(a) From the date of this letter agreement until the receipt by Clover from the Company of the Data and Analysis (as defined in paragraph 3(b) below) of the Phase 3 clinical trial portion of the Novelos Trials (as defined in the Collaboration Agreement (as defined below)) in the United States ("Exclusive Negotiation Period"), the Company shall not negotiate with any third party other than Clover for (i) the license or other acquisition of NOV-002 Rights (defined below) in the United States (the "Proposed Transaction") or (ii) any transaction which would terminate the Rights of First Refusal Period set forth in paragraph 3(c) below.

(b) The Company and Clover agree that during the Exclusive Negotiation Period, neither the Company nor any of its affiliates, or any of its or their respective directors, officers, employees, financial advisors or counsel, agents or representatives or any other party retained or engaged by the Company or any affiliate of the Company to assist in the analysis, the arranging, brokering, financing, negotiation or consummation of the Proposed Transaction at any time will (either directly or through any intermediary) solicit, entertain offers or bids from, respond to, negotiate with or consider any offer, bid or proposal of any other person for a transaction that would conflict with or impede the Proposed Transaction in any respect, or provide any non-public information to any third party in connection with such an offer, bid or proposal except to the extent to respond to unsolicited offers, bids or proposals as required by law, including the fiduciary duties of the Board of Directors of the Company.

(c) Until the first to occur of (i) such time as the Company is permitted to proceed with the transaction proposed by the Offeror (as defined below) pursuant to paragraph 2(a)(iii), or (ii) the end of the Right of First Refusal Period, the Company will (A) reasonably cooperate with Clover to provide access to Clover of the Company's books and records, and all other relevant documents and data, in each case, to the extent related to the Proposed Transaction, (B) prepare, file, prosecute and maintain all of its patents related to NOV-002 in Canada, and (C) keep Clover informed, in a timely manner, of material communications, notifications or other information which it receives or provides (directly or indirectly) with respect to NOV-002 or related patents and intellectual property with any regulatory authority in Canada, including, without limitation, the Canadian Intellectual Property Office, Health Canada and the Patent Medicines Price Review Board.

(d) In the event any negotiations between the Company and Clover during such Exclusive Negotiation Period results in a bona fide agreement in principle on terms to be set forth in a definitive agreement, the Company will grant Clover an option, at no cost other than as specified in such agreement, to enter into such definitive agreement, such option to terminate upon the 30th day, or such longer period as agreed to between the Company and Clover, following the end of the Exclusive Negotiation Period.

2. Right of First Refusal

(a) In the event that a definitive agreement for the license or acquisition by Clover of NOV-002 Rights is not entered into during the Exclusive Negotiation Period, the Company will not enter into a definitive agreement to license, sell or otherwise grant the NOV-002 Rights, in whole or in part, to a party other than Clover during the Right of First Refusal Period (defined below) except in accordance with the following procedure:

(i) Within 10 business days of approval by the Company's Board of Directors of a bona fide offer of a third party to license or otherwise acquire NOV-002 Rights (a "Bona Fide Offer") during the Right of First Refusal Period, the Company shall communicate all material terms of the Bona Fide Offer (but not the identity of the third party making the Bona Fide Offer (the "Offeror")) to Clover.

(ii) Clover shall have 30 days, or such longer period as agreed to between the Company and Clover, to enter into a definitive agreement with the Company to acquire the NOV-002 Rights on substantially the same terms, which provide no lesser economic benefit to the Company, as set forth in the Bona Fide Offer. For the avoidance of doubt, neither Clover nor the Company shall have the right to negotiate a more favorable provision for itself than the provision as set forth in the Bona Fide Offer. If any usual or customary license provisions are not set forth in the Bona Fide Offer, such provisions shall be negotiated in good faith.

(iii) If the definitive agreement is not entered into by Clover and the Company within 30 days, or such longer period as agreed to between the Company and Clover, of Clover's receipt from the Company of the terms of the Bona Fide Offer, then the Company may proceed with the transaction proposed by the Offeror on terms no less favorable to the Company than the terms set forth in the Bona Fide Offer. If a definitive agreement for such transaction with the Offeror is not entered into between the Company and the Offeror within 60 days then the Company must re-offer the Bona Fide Offer to Purdue pursuant to the procedures set forth in this paragraph 2(a).

3. Definitions

(a) The term "NOV-002 Rights" means the rights to research, register, develop, make, have made, use, warehouse, promote, market, sell, have sold, import, distribute, and offer for sale NOV-002 in Canada.

(b) The term "Data and Analysis" means the final tables, listings and figures, set forth in a letter to LP Clover on even date herewith, from the Phase 3 clinical trial portion of the Novelos Trials in the United States. The Data and Analysis will be provided to Clover by the Company as soon as practically possible after the Company's verification of such Data and Analysis, and in accordance with the endpoints in the pre-specified Statistical Analysis Plan in the Special Protocol Assessment agreed with the United States Food and Drug Administration.

(c) The term "Right of First Refusal Period" means that period of time commencing as of the date of the date hereof and terminating upon the later of (i) the closing or effectiveness of a Business Combination (defined below) transaction and (ii) the end of the Exclusive Negotiation Period. For the avoidance of doubt, the Company may enter into a definitive agreement for a Business Combination transaction subject to paragraph 1(a) but the Right of First Refusal Period will not terminate until the later of (i) the closing or effectiveness of such Business Combination transaction and (ii) the end of the Exclusive Negotiation Period.

(d) The term "Business Combination" means (i) the acquisition by a third party of a majority of the outstanding shares of capital stock of the Company by tender, exchange offer or otherwise where such third party shall have become, directly or indirectly, the beneficial owner (within the meaning of Rule 13d-3 under the U.S. Securities Exchange Act of 1934, as amended) of the securities of the Company representing fifty percent (50%) or more of the Company's capital stock, (ii) the effectiveness of any merger of the Company with or into a third party, in which the capital stock of the Company immediately prior to such merger represents less than fifty percent (50%) of the voting power, (without regard to the effect of any so-called "blocker provisions" of any convertible securities), of the surviving entity (or, if the surviving entity is a wholly owned subsidiary, its parent) immediately after such merger and (iii) the closing of any sale of all or substantially all of the assets of the Company.

(e) The term "Collaboration Agreement" refers to that agreement between the Company and Mundipharma International Corporation Limited dated as of February 11, 2009.

4. Disclosure

Except as and to the extent required by law, without the prior written consent of the other party, neither Clover nor the Company will, and each will direct and cause its officers, directors, employees, attorneys, accountants and other agents and representatives not to, directly or indirectly, make any public comment, statement or communication with respect to, or otherwise publicly disclose or permit the public disclosure of any of the terms, conditions or other aspects of the Proposed Transaction which may be under negotiation between the parties during the Exclusive Negotiation Period or the Right of First Refusal Period. If a party is required by law to make any such disclosure, it shall first provide to the other party the content of the proposed disclosure, the reasons such disclosure is required by law and the time and place the disclosure will be made and the opportunity to consult with respect thereto. Disclosure shall be made only of that part of information that counsel advises that the party is legally required to disclose.

5. Termination of Rights

The Company has provided an affiliate of Clover rights for the United States similar to those set forth in this letter agreement. If, at any time after the date hereof, such similar rights in respect of the NOV-002 Rights granted by the Company to such affiliate expire or terminate, then the corresponding rights set forth in this letter agreement shall be deemed expired or terminated, accordingly, upon Clover's receipt of written notice from Novelos.

6. Representations and Warranties

The Company represents and warrants that the Company has not and will not incur any liability in connection with the Proposed Transaction to any third party with whom the Company has had discussions, at any time prior to the date of this letter agreement, regarding any other transaction or the Proposed Transaction, and the Company shall indemnify and hold harmless Clover and its affiliates and any of their respective successors and assigns from any and all such claims.

7. Fees

Each party will be responsible for and bear all of its own fees and expenses (including any broker's or finder's fees and the fees and expenses of its attorneys and other advisors) incurred at any time in connection with pursuing or consummating the Proposed Transaction.

8. Entire Agreement

The provisions of this letter agreement constitute the entire agreement between the parties and supersede all prior oral or written agreements, understandings, representations and warranties and courses of conduct or dealings between the parties on the subject matter set forth herein. The provisions of this letter agreement may only be amended or modified by a writing executed by each of the parties. This letter agreement will be governed by and construed under the laws of the State of New York, without regard to conflict of laws principles. This letter agreement may be executed in one or more counterparts, each of which will be deemed to be an original and all of which, taken together, will constitute one and the same agreement. This letter agreement will be binding on each party's successors or assigns. Any successor of a party or assignee of a party's rights and/or obligations hereunder will expressly assume performance of such rights and/or obligations.

9. Obligations

Neither party will be obligated to proceed with the Proposed Transaction unless and until it is approved by both parties' respective boards of directors and a definitive transaction agreement is signed, it being the express intent of the parties hereto that neither party shall be bound in the absence of such board approvals and such definitive agreement. Neither party will have any obligation of any sort under this letter agreement or in connection with the Proposed Transaction except (a) as may be agreed in writing by the parties hereafter in a definitive transaction agreement and (b) as provided explicitly in this letter agreement (the "Binding Obligations"). In all other respects, this letter will not bind any party to enter into the Proposed Transaction. Except as may be expressly provided in the Binding Obligations, no past or future action, course of conduct or failure to act relating to the Proposed Transaction, or relating to the negotiation of, or the failure to negotiate, the terms of the Proposed Transaction will give rise to any obligation or other liability on the part of the parties hereto. In the event the parties enter into a definitive agreement with respect to the Proposed Transaction, such agreement will supersede this letter agreement in all respects. In the event this letter agreement is terminated prior to entering into a definitive agreement relating to the Proposed Transaction, numbered paragraphs 4, 6, 7, 8 and 9 shall survive such termination.

10. Notices

Unless otherwise provided, any notice required or permitted under this letter 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
USA
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
USA
Attn: Paul Bork
Fax: (617) 832-7000

If to Clover:

LP Clover Limited
Par La Ville Place
14 Par-La-Ville Road
P.O. Box HM 2332
Hamilton HM JX, Bermuda
Attention: Douglas Doherty
Fax: +(441) 292 1472

With a copy to:

Chadbourne & Parke LLP
30 Rockefeller Plaza
New York, New York 10112
USA
Attention: Stuart D. Baker
Fax: (212) 541-5369

[*remainder of this page intentionally left blank***]**

If the foregoing correctly sets forth our entire understanding, please sign and return the enclosed copy of this letter agreement in the space provided below.

Very truly yours,

LP CLOVER LIMITED

By: /s/ Douglas Doherty
Name: Douglas Docherty
Title: General Manager

Accepted and Agreed to:

NOVELOS THERAPEUTICS, INC.

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

Execution Copy

Mundipharma International Corporation Limited
Par La Ville Place
14 Par-La-Ville Road
P.O. Box HM 2332
Hamilton HM JX, Bermuda

August 25, 2009

Harry S. Palmin, President & CEO
Novelos Therapeutics, Inc.
One Gateway Center, Suite #504
Newton, MA 02458

Dear Mr. Palmin:

This letter agreement sets out the understanding of the undersigned concerning a proposed license agreement between Mundipharma International Corporation Limited or one of its affiliates ("MICL") and Novelos Therapeutics, Inc. (the "Company"), under which MICL would receive a license to, or otherwise acquire, the NOV-002 Rights (defined below) in the Territory (as defined below). Subject to the terms and conditions set forth below, the Company has agreed to grant MICL (i) the right to exclusively negotiate with the Company for the NOV-002 Rights in the Territory for a limited period of time, and (ii) the right to enter into a definitive agreement with respect to the NOV-002 Rights on substantially the same terms as a third party offer for the license or acquisition of the NOV-002 Rights.

1. Exclusivity

(a) From the date of this letter agreement until the receipt by MICL from the Company of the Data and Analysis (as defined in paragraph 3(b) below) of the Phase 3 clinical trial portion of the Novelos Trials (as defined in the Collaboration Agreement (as defined below)) in the United States ("Exclusive Negotiation Period"), the Company shall not negotiate with any third party other than MICL for (i) the license or other acquisition of NOV-002 Rights (defined below) in the United States (the "Proposed Transaction") or (ii) any transaction which would terminate the Rights of First Refusal Period set forth in paragraph 3(c) below.

(b) The Company and MICL agree that during the Exclusive Negotiation Period, neither the Company nor any of its affiliates, or any of its or their respective directors, officers, employees, financial advisors or counsel, agents or representatives or any other party retained or engaged by the Company or any affiliate of the Company to assist in the analysis, the arranging, brokering, financing, negotiation or consummation of the Proposed Transaction at any time will (either directly or through any intermediary) solicit, entertain offers or bids from, respond to, negotiate with or consider any offer, bid or proposal of any other person for a transaction that would conflict with or impede the Proposed Transaction in any respect, or provide any non-public information to any third party in connection with such an offer, bid or proposal except to the extent to respond to unsolicited offers, bids or proposals as required by law, including the fiduciary duties of the Board of Directors of the Company.

(c) Until the first to occur of (i) such time as the Company is permitted to proceed with the transaction proposed by the Offeror (as defined below) pursuant to paragraph 2(a)(iii), or (ii) the end of the Right of First Refusal Period, the Company will (A) reasonably cooperate with MICL to provide access to MICL of the Company's books and records, and all other relevant documents and data, in each case, to the extent related to the Proposed Transaction, (B) prepare, file, prosecute and maintain all of its patents related to NOV-002 in the Territory, and (C) keep MICL informed, in a timely manner, of material communications, notifications or other information which it receives or provides (directly or indirectly) with respect to NOV-002 or related patents and intellectual property with any regulatory authorities in the Territory.

(d) In the event any negotiations between the Company and MICL during such Exclusive Negotiation Period results in a bona fide agreement in principle on terms to be set forth in a definitive agreement, the Company will grant MICL an option, at no cost other than as specified in such agreement, to enter into such definitive agreement, such option to terminate upon the 30th day, or such longer period as agreed to between the Company and MICL, following the end of the Exclusive Negotiation Period.

2. Right of First Refusal

(a) In the event that a definitive agreement for the license or acquisition by MICL of NOV-002 Rights is not entered into during the Exclusive Negotiation Period, the Company will not enter into a definitive agreement to license, sell or otherwise grant the NOV-002 Rights, in whole or in part, to a party other than MICL during the Right of First Refusal Period (defined below) except in accordance with the following procedure:

(i) Within 10 business days of approval by the Company's Board of Directors of a bona fide offer of a third party to license or otherwise acquire NOV-002 Rights (a "Bona Fide Offer") during the Right of First Refusal Period, the Company shall communicate all material terms of the Bona Fide Offer (but not the identity of the third party making the Bona Fide Offer (the "Offeror")) to MICL.

(ii) MICL shall have 30 days, or such longer period as agreed to between the Company and MICL, to enter into a definitive agreement with the Company to acquire the NOV-002 Rights on substantially the same terms, which provide no lesser economic benefit to the Company, as set forth in the Bona Fide Offer. For the avoidance of doubt, neither MICL nor the Company shall have the right to negotiate a more favorable provision for itself than the provision as set forth in the Bona Fide Offer. If any usual or customary license provisions are not set forth in the Bona Fide Offer, such provisions shall be negotiated in good faith.

(iii) If the definitive agreement is not entered into by MICL and the Company within 30 days, or such longer period as agreed to between the Company and MICL, of MICL's receipt from the Company of the terms of the Bona Fide Offer, then the Company may proceed with the transaction proposed by the Offeror on terms no less favorable to the Company than the terms set forth in the Bona Fide Offer. If a definitive agreement for such transaction with the Offeror is not entered into between the Company and the Offeror within 60 days then the Company must re-offer the Bona Fide Offer to Purdue pursuant to the procedures set forth in this paragraph 2(a).

3. Definitions

(a) The term "NOV-002 Rights" means the rights to research, register, develop, make, have made, use, warehouse, promote, market, sell, have sold, import, distribute, and offer for sale NOV-002 in the Territory.

(b) The term "Data and Analysis" means the final tables, listings and figures, set forth in a letter to MICL on even date herewith, from the Phase 3 clinical trial portion of the Novelos Trials in the United States. The Data and Analysis will be provided to MICL by the Company as soon as practically possible after the Company's verification of such Data and Analysis, and in accordance with the endpoints in the pre-specified Statistical Analysis Plan in the Special Protocol Assessment agreed with the United States Food and Drug Administration.

(c) The term "Right of First Refusal Period" means that period of time commencing as of the date of the date hereof and terminating upon the later of (i) the closing or effectiveness of a Business Combination (defined below) transaction and (ii) the end of the Exclusive Negotiation Period. For the avoidance of doubt, the Company may enter into a definitive agreement for a Business Combination transaction subject to paragraph 1(a) but the Right of First Refusal Period will not terminate until the later of (i) the closing or effectiveness of such Business Combination transaction and (ii) the end of the Exclusive Negotiation Period.

(d) The term "Territory" means Mexico, Central America, South America and the Caribbean.

(e) The term "Business Combination" means (i) the acquisition by a third party of a majority of the outstanding shares of capital stock of the Company by tender, exchange offer or otherwise where such third party shall have become, directly or indirectly, the beneficial owner (within the meaning of Rule 13d-3 under the U.S. Securities Exchange Act of 1934, as amended) of the securities of the Company representing fifty percent (50%) or more of the Company's capital stock, (ii) the effectiveness of any merger of the Company with or into a third party, in which the capital stock of the Company immediately prior to such merger represents less than fifty percent (50%) of the voting power, (without regard to the effect of any so-called "blocker provisions" of any convertible securities), of the surviving entity (or, if the surviving entity is a wholly owned subsidiary, its parent) immediately after such merger and (iii) the closing of any sale of all or substantially all of the assets of the Company.

(f) The term "Collaboration Agreement" refers to that agreement between the Company and MICL dated as of February 11, 2009.

4. Disclosure

Except as and to the extent required by law, without the prior written consent of the other party, neither MICL nor the Company will, and each will direct and cause its officers, directors, employees, attorneys, accountants and other agents and representatives not to, directly or indirectly, make any public comment, statement or communication with respect to, or otherwise publicly disclose or permit the public disclosure of any of the terms, conditions or other aspects of the Proposed Transaction which may be under negotiation between the parties during the Exclusive Negotiation Period or the Right of First Refusal Period. If a party is required by law to make any such disclosure, it shall first provide to the other party the content of the proposed disclosure, the reasons such disclosure is required by law and the time and place the disclosure will be made and the opportunity to consult with respect thereto. Disclosure shall be made only of that part of information that counsel advises that the party is legally required to disclose.

5. Termination of Rights

The Company has provided an affiliate of MICL rights for the United States similar to those set forth in this letter agreement. If, at any time after the date hereof, such similar rights in respect of the NOV-002 Rights granted by the Company to such affiliate expire or terminate, then the corresponding rights set forth in this letter agreement shall be deemed expired or terminated, accordingly, upon MICL's receipt of written notice from Novelos.

6. Representations and Warranties

The Company represents and warrants that the Company has not and will not incur any liability in connection with the Proposed Transaction to any third party with whom the Company has had discussions, at any time prior to the date of this letter agreement, regarding any other transaction or the Proposed Transaction, and the Company shall indemnify and hold harmless MICL and its affiliates and any of their respective successors and assigns from any and all such claims.

7. Fees

Each party will be responsible for and bear all of its own fees and expenses (including any broker's or finder's fees and the fees and expenses of its attorneys and other advisors) incurred at any time in connection with pursuing or consummating the Proposed Transaction.

8. Entire Agreement

The provisions of this letter agreement constitute the entire agreement between the parties and supersede all prior oral or written agreements, understandings, representations and warranties and courses of conduct or dealings between the parties on the subject matter set forth herein. The provisions of this letter agreement may only be amended or modified by a writing executed by each of the parties. This letter agreement will be governed by and construed under the laws of the State of New York, without regard to conflict of laws principles. This letter agreement may be executed in one or more counterparts, each of which will be deemed to be an original and all of which, taken together, will constitute one and the same agreement. This letter agreement will be binding on each party's successors or assigns. Any successor of a party or assignee of a party's rights and/or obligations hereunder will expressly assume performance of such rights and/or obligations.

9. Obligations

Neither party will be obligated to proceed with the Proposed Transaction unless and until it is approved by both parties' respective boards of directors and a definitive transaction agreement is signed, it being the express intent of the parties hereto that neither party shall be bound in the absence of such board approvals and such definitive agreement. Neither party will have any obligation of any sort under this letter agreement or in connection with the Proposed Transaction except (a) as may be agreed in writing by the parties hereafter in a definitive transaction agreement and (b) as provided explicitly in this letter agreement (the "Binding Obligations"). In all other respects, this letter will not bind any party to enter into the Proposed Transaction. Except as may be expressly provided in the Binding Obligations, no past or future action, course of conduct or failure to act relating to the Proposed Transaction, or relating to the negotiation of, or the failure to negotiate, the terms of the Proposed Transaction will give rise to any obligation or other liability on the part of the parties hereto. In the event the parties enter into a definitive agreement with respect to the Proposed Transaction, such agreement will supersede this letter agreement in all respects. In the event this letter agreement is terminated prior to entering into a definitive agreement relating to the Proposed Transaction, numbered paragraphs 4, 6, 7, 8 and 9 shall survive such termination.

10. Notices

Unless otherwise provided, any notice required or permitted under this letter 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
USA
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
USA
Attn: Paul Bork
Fax: (617) 832-7000

If to MICL:

Mundipharma International Corporation Limited
Par La Ville Place
14 Par-La-Ville Road
P.O. Box HM 2332
Hamilton HM JX, Bermuda
Attention: Douglas Doherty
Fax: +(441) 292 1472

With a copy to:

Chadbourne & Parke LLP
30 Rockefeller Plaza
New York, New York 10112
USA
Attention: Stuart D. Baker
Fax: (212) 541-5369

[*remainder of this page intentionally left blank***]**

If the foregoing correctly sets forth our entire understanding, please sign and return the enclosed copy of this letter agreement in the space provided below.

Very truly yours,

MUNDIPHARMA INTERNATIONAL
CORPORATION LIMITED

By: /s/ Douglas Docherty
Name: Douglas Docherty
Title: General Manager

Accepted and Agreed to:

NOVELOS THERAPEUTICS, INC.

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

Exhibit 23.2

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors
Novelos Therapeutics, Inc.

We consent to the use of our report dated March 17, 2009, relating to the financial statements of Novelos Therapeutics, Inc. as of December 31, 2008 and 2007 and for the years then ended in the Registration Statement on Form S-1 of Novelos Therapeutics, Inc., relating to the registration of 58,745,592 shares of common stock. We also consent to the use of our name and the reference to us in the ‘‘Experts’’ section of this registration statement.

/s/ Stowe & Degon LLC

Westborough, Massachusetts
September 15, 2009

Paul Bork
Boston Office
617.832.1113
pbork@foleyhoag.com

September 15, 2009

Via Edgar

Securities and Exchange Commission
Division of Corporate Finance
100 F Street, N.E.
Washington, DC 20549

Re: Novelos Therapeutics, Inc.
Registration Statement on Form S-1

Ladies and Gentlemen:

This letter constitutes supplemental correspondence on behalf of Novelos Therapeutics, Inc., a Delaware corporation (the "Company"), related to and filed together with the Company's Registration Statement on Form S-1 (the "Registration Statement"). The Registration Statement covers the resale of 58,745,592 shares (the "Shares") of the Company's common stock, par value $0.00001 per share (the "Common Stock"), by the selling stockholders identified therein.

The Shares consist of 37,649,442 shares of Common Stock issuable upon conversion of the Company's outstanding Series E preferred stock and 21,096,150 shares of Common Stock issuable upon exercise of the Company's outstanding five-year common stock purchase warrants. The preferred stock and warrants were sold in a private placement transaction (and a concurrent exchange of all of the then outstanding shares of the Company's Series D preferred stock) completed on February 11, 2009. We refer you to the Company's Form 8-K filed with the SEC on February 11, 2009 and its annual report on Form 10-K filed with the SEC on March 30, 2009 regarding this private placement transaction, the related exchange, and the various agreements associated therewith.

Should a member of the Staff have any questions concerning this filing, it is requested that he or she contact the undersigned, Paul Bork, at (617) 832-1113, or in my absence, Matthew Eckert at (617) 832-3057.

Sincerely,

/s/ Paul Bork
Paul Bork

PB
Enclosures

cc: Mr. Harry Palmin
Mr. Matthew Eckert