**Filed pursuant to Rule 424(b)(3)**
**File No. 333-151396**

**PROSPECTUS**

**6,888,413 shares of common stock**

**NOVELOS THERAPEUTICS, INC.**

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This prospectus relates to the resale, from time to time, of up to 6,888,413 shares of our common stock by the stockholders referred to throughout this prospectus as "selling stockholders." The shares of our common stock offered in this prospectus are issuable on exercise of 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.

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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 June 2, 2008, the last reported sale price of our common stock on the OTC Electronic Bulletin Board was $0.60 per share.

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**Investing in our common stock involves a high degree of risk.**
**See risk factors beginning on page 6 of this prospectus.**

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**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 June 23, 2008

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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 6.*

### Business

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 company 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 lung cancer under a Special Protocol Assessment and Fast Track. NOV-002 is also in Phase 2 development for chemotherapy-resistant ovarian cancer and early-stage breast cancer. NOV-205, our second compound, is in Phase 1b development for chronic hepatitis C non-responders. Both compounds have completed clinical trials in humans and have been approved for use in Russia, where they were originally developed.

NOV-002, our lead compound, acts as a chemoprotectant and a chemopotentiator. In May 2006, we finalized a Special Protocol Assessment (SPA) with the FDA for a single pivotal Phase 3 trial 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.

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 March 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. Based on these results, we plan to initiate a second phase 2 trial in platinum-resistant ovarian cancer patients in early 2009.

NOV-002 is also being developed to treat early-stage breast cancer. These patients are often treated with chemotherapy to minimize surgical intervention. In June 2007 we commenced enrollment in a U.S. Phase 2 trial in order to evaluate the ability of NOV-002 to enhance the effectiveness of such chemotherapy. The interim efficacy target was achieved in May 2008, earlier than expected, and the trial is moving into stage 2.

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 was accepted by the FDA in April 2006. 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 fourth quarter of 2008.

Our intellectual property portfolio of issued patents includes five 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. The breadth of our intellectual property will also allow us to expand our product pipeline by claiming and commercializing additional compounds that are based on oxidized glutathione.

### The Offering

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| *Securities Offered:* | 6,888,413 shares of our common stock issuable upon exercise of warrants |
| *Use of Proceeds:* | We will not receive any of the proceeds from the sale by any selling stockholder of common stock. However, we will receive proceeds from the exercise of the warrants if they are exercised by the selling stockholders. We intend to use any proceeds for working capital and general corporate purposes. |
| *Total Shares of our Common Stock Outstanding as of June 2, 2008:* | 39,360,272 |

**Summary Financial Information**

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

| | Three Months Ended March 31, | | Year Ended December 31, | |
|---|---|---|---|---|
| | 2008 | 2007 | 2007 | 2006 |
| Revenue | $ 8,333 | $ – | $ – | $ – |
| Costs and expenses | 7,175,000 | 2,517,129 | 20,294,187 | 8,929,808 |
| Other income (expense) | 65,570 | 135,459 | 737,052 | 643,752 |
| Net loss | (7,101,097) | (2,381,670) | (19,557,135) | (8,286,056) |
| Net loss attributable to common stockholders | (7,503,877) | (2,446,950) | (29,721,338) | (8,547,176) |
| Current assets | 6,658,010 | 9,598,161 | 11,059,501 | 11,888,674 |
| Current liabilities | 9,623,533 | 1,307,165 | 7,059,390 | 1,313,425 |
| Total assets | 6,714,949 | 9,632,695 | 11,107,660 | 11,923,359 |

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

**The report from our independent registered public accounting firm included in our annual report on Form 10-KSB indicates that there is substantial doubt about whether we will be able to continue as a going concern for a period of one year from the date of their report.**

The report from our independent registered public accounting firm included with our annual report on Form 10-KSB indicates that factors exist that raise substantial doubt about our ability to continue as a going concern through March 2009. We have estimated that the cash on hand at March 31, 2008 plus the proceeds from the sale of Series D Preferred Stock will fund our obligations into late 2008. Our ability to continue as a going concern is dependent on our ability to obtain capital (through the sale of equity and debt securities and through collaborative arrangements with partners) to fund our development activities. If we are unable to obtain additional capital through these sources, we may have to seek other sources of capital or reevaluate our operating plans, including slowing or stopping the Phase 3 clinical development of our lead drug candidate, NOV-002.

**We may have difficulty raising needed capital because of our limited operating history and our business risks.**

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 in 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 long-term capital requirements are expected to 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;
- 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 training physicians;
- our status as a Bulletin-Board listed company and the prospects for our stock to be listed on a national exchange; and
- uncertainty and economic instability resulting from terrorist acts and other acts of violence or war.

We may consume available resources more rapidly than currently anticipated, resulting in the need for additional funding. 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. Currently, we believe that we have available cash sufficient to meet our working capital requirements into late 2008, assuming our expense levels do not exceed our current plan. If we do not generate revenues or raise additional capital, we will not be able to sustain our operations at existing levels beyond that date or earlier if expense levels increase.

**The failure to complete development of our therapeutic technology, obtain government approvals, including required U.S. Food and Drug Administration (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 on the patient population and 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 utilizing 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 a 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 additional 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 or the trials are halted by the FDA, we would not be able to achieve any revenue from such product, as it is illegal to sell any drug for human consumption 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 in the future obtained, 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 are 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, resulting 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 and 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, it will be subject to extensive ongoing regulation. This includes 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 comply with any applicable regulations could further delay or preclude us from developing and commercializing 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 affect our future profitability 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. In fact, NOV-002 has been approved for use in Russia for general medicinal use as an immunostimulant in combination with chemotherapy and antimicrobial therapy, and specifically for indications such as tuberculosis and psoriasis. NOV-205 has been approved in Russia as a monotherapy agent for the treatment of hepatitis B and C. Russian regulatory approval is not equivalent to FDA approval. Pivotal Phase 3 studies with a large number of patients, typically required for FDA approval, were not conducted for NOV-002 and NOV-205 in Russia. Further, all of our Russian clinical studies were completed prior to 2000 and may not have been conducted in accordance with current guidelines either in Russia or the United States.

A U.S.-based Phase 1/2 clinical trial of NOV-002 involving 44 non-small cell lung cancer patients provided what we believe to be a favorable outcome. As a result, we enrolled the first patient in the pivotal Phase 3 trial of NOV-002 for non-small cell lung cancer in November 2006. We reached our enrollment target in March 2008 and we expect trial conclusion mid-2009. We enrolled the first patient in the Phase 2 clinical study for NOV-002 for chemotherapy-resistant ovarian cancer in July 2006 and announced what we believe to be encouraging results from this ongoing study in March 2008. We also commenced a Phase 2 clinical study for NOV-002 for early-stage breast cancer, and achieved an interim efficacy target in May 2008, earlier than expected. In December 2007, we concluded a U.S. Phase 1b clinical trial of NOV-205 for chronic hepatitis C non-responders based on favorable safety profile. 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.

**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 increasing operating losses over the next several years as we incur increasing 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 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 to anticipate commercializing and marketing our proposed products in development, and do not expect to generate sufficient revenues from proposed product sales 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. Our inability to have the facilities 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 currently maintain a good working relationship with our contractors. Should the situation change and we are required to relocate these activities on short notice, we do not currently have an alternate facility where 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 gaining FDA approval and commercializing our products.

**We are dependent on our collaborative agreements for the development of our technologies and business development, which expose 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 agreements with universities, hospitals, governmental agencies, charitable foundations, manufacturers and others. The loss of 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 reasonable commercial 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.

**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. We cannot assure that such potential claims will not be asserted against us. In addition, the use in our clinical trials of pharmaceutical products that we may develop and then subsequently sell or our potential collaborators may develop and then subsequently sell may cause us to bear a portion of or all product liability risks. A successful liability claim or series of claims brought against us could have a material adverse effect on our business, financial condition and results of operations.

Although we have not received any product liability claims to date, we have an insurance policy of $5,000,000 per occurrence and $5,000,000 in the aggregate to cover such claims should they arise. There can be no assurance that material claims will not arise in the future or 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. Any product liability claim, if successful, could have a material adverse effect on our business, financial condition and results of operations. 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. Claims or losses in excess of any product liability insurance coverage that may be obtained by 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, utilize or recommend any of our products. If we are unable to obtain regulatory approval or commercialize and market our proposed products when 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 future 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 adequately protect or enforce our rights to intellectual property or secure rights to third-party patents, we may lose valuable rights, experience reduced market share, assuming any, or incur costly litigation to protect such 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, including us, that involve licensing agreements, 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. 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.

Although our trade secrets and technical know-how are important, our continued access to the patents is a significant factor in the development and commercialization of our products. Aside from the general body of scientific knowledge from other drug delivery processes and technology, these patents, to the best of our knowledge and based on our current scientific data, are the only intellectual property necessary to develop our products, including NOV-002 and NOV-205. We do not believe that we are or will be violating any patents in developing our 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 and, if our products are approved, we may not be able to manufacture sufficient quantities at an acceptable cost, or may be subject to risk that 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. At the appropriate time, we intend to enter into agreements with third parties to sell our products or we may develop our own sales and marketing force. 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 as to 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.

**Fluctuations in foreign exchange rates could increase costs to complete international clinical trial activities.**

We have initiated a portion of our clinical trial activities in both Western and Eastern Europe. We anticipate that approximately 40% of the remaining Phase 3 clinical trial budget of approximately $12 million will be incurred in Euros. Significant depreciation in the value of the U.S. Dollar against principally the Euro could adversely affect our ability to complete the trials, particularly if we are unable to redirect funding or raise additional funds. Since the timing and amount of foreign-denominated payments are uncertain and dependent on a number of factors, it is difficult to cost-effectively hedge the potential exposure. Therefore, to date, we have not entered into any foreign currency hedges to mitigate the potential exposure.

**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 such competitors' financial, marketing, manufacturing and other resources.

We are an early-stage enterprise that operates with limited day-to-day business management, serves as a vehicle to hold certain technology for possible future exploration, and has 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 have an entirely different approach or means of accomplishing similar therapeutic effects from our technology. 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 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 and we may not achieve anticipated revenues.**

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 affect our future revenues and profitability, and the future revenues and profitability of our potential customers, suppliers and collaborative partners and the availability of capital. For example, in certain foreign markets, pricing or profitability of prescription pharmaceuticals is subject to government control. In the United States, given recent federal and state government initiatives directed at lowering the total cost of health care, the U.S. Congress and state legislatures will likely continue to focus on healthcare reform, the cost of prescription pharmaceuticals and the reform 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 reduce 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 we would need 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 reasonably necessary resources 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. Beginning with the annual report for the fiscal year ending December 31, 2007 we were required to include a report of our management on internal control over financial reporting. 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.

## 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 D or Series C preferred stock into common stock at conversion rates or the exercise of options and warrants at below-current-market prices;
- 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 or for initial or continued inclusion in the NASDAQ system, trading, if any, in our common stock, would then continue to be conducted on the NASD's 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.

Trading of our common stock may be subject to penny-stock rules under the Securities Exchange Act of 1934. Unless exempt, for any transaction involving a penny-stock, the regulations require broker-dealers making a market in our common stock to provide risk disclosure to their customers including regarding the risks associated with our common stock, the suitability for the customer of an investment in our common stock, the duties of the broker-dealer to the customer, information regarding prices for our common stock and any compensation the broker-dealer would receive. The application of these rules may result in fewer market makers in our common stock. Our common stock is presently subject to the rules on penny-stocks, and the liquidity of our common stock could be materially adversely affected so long as we remain subject to such rule.

**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.**

Our directors, officers and holders of our Series D preferred stock beneficially own, in the aggregate, approximately 51% of our outstanding voting shares. The interests of our current officers, directors and Series D investors may differ from the interests of other stockholders. Further, our current officers, directors and Series D 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, 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, and could reduce the market price of our common stock.

**We are prohibited from taking certain actions and entering into certain transactions as a result of the issuance of our Series D preferred stock.**

For as long as any shares of Series D Preferred Stock remain outstanding we are prohibited from taking certain actions or entering into certain transactions without the prior consent of the holders of outstanding shares of Series D preferred stock. We are prohibited from paying dividends to common stockholders, amending our certificate of incorporation, 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), increasing the number of shares of Series D Preferred Stock or issuing any additional shares of Series D Preferred Stock other than the 420 shares designated in the Series D 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 or intellectual property or entering into a merger or consolidation with another company unless we are the surviving corporation, the Series D Preferred Stock remains outstanding and there are no changes to the rights and preferences of the Series D Preferred Stock, redeeming or repurchasing any capital stock other than Series D Preferred Stock, or incurring any new debt for borrowed money in excess of $500,000.

If the board of directors determines 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 the holders of the outstanding shares of Series D preferred stock.

**We were unable to pay dividends to our preferred stockholders on March 31, 2008 and may be unable to pay dividends to preferred stockholders when due in future periods.**

As a result of continuing losses during the year ended December 31, 2007 and the quarter ended March 31, 2008, as of March 31, 2008, we did not have legally available funds for the payment of dividends under Delaware corporate law. Accordingly, we were unable to pay dividends that were due to our Series B and Series C preferred stockholders as of that date. The dividends were paid following the closing of our Series D financing, at which time we had funds legally available for the payment of such dividends. Our ability to pay 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.

## 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 or Plan of Operation” 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. We will receive proceeds from the exercise of warrants. Such proceeds will be used for working capital and general corporate purposes.

## 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 2006** | High | Low |
|---|---|---|
| First Quarter | $ 2.25 | $ 1.60 |
| Second Quarter | 1.95 | 0.85 |
| Third Quarter | 1.05 | 0.63 |
| Fourth Quarter | 1.02 | 0.60 |

| **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 (through June 2, 2008) | 0.64 | 0.44 |

On June 2, 2008 there were 112 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 D preferred stock are outstanding. 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.

## BUSINESS

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 company 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 lung cancer under a Special Protocol Assessment and Fast Track. NOV-002 is also in Phase 2 development for chemotherapy-resistant ovarian cancer and early-stage breast cancer. NOV-205, our second compound, is in Phase 1b development for chronic hepatitis C non-responders. Both compounds have completed clinical trials in humans and have been approved for use in Russia, where they were originally developed.

NOV-002, our lead compound, acts as a chemoprotectant and a chemopotentiator. In May 2006, we finalized a Special Protocol Assessment (SPA) with the FDA for a single pivotal Phase 3 trial 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.

NOV-002 is also being developed to treat chemotherapy-resistant ovarian cancer. In a U.S. Phase 2 chemothereapy-resistant ovarian cancer trial at Massachusetts General Hospital and Dana-Farber Cancer Institute from July 2006 through March 2008, NOV-002 (plus carboplatin) slowed disease progression 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. Based on these results, we plan to initiate a second phase 2 trial in platinum-resistant ovarian cancer patients in early 2009.

NOV-002 is also being developed to treat early-stage breast cancer. These patients are often treated with chemotherapy to minimize surgical intervention. In June 2007 we commenced enrollment in a U.S. Phase 2 trial in order to evaluate the ability of NOV-002 to enhance the effectiveness of such chemotherapy while diminishing dose-limiting side-effects. As of May 2008, 16 women have been enrolled with four pathologic complete responses demonstrated in the first eight women that have both completed chemotherapy and undergone surgery. Furthermore, NOV-002 was associated with decreased hematologic toxicities and with decreased use of growth factors relative to historical experience. Detailed results will be submitted for presentation at the San Antonio Breast Cancer Symposium in December 2008. Full enrollment of 46 patients is expected mid-2009, with trial conclusion in early 2010.

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 was accepted by the FDA in April 2006. 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 second half of 2008.

Our intellectual property portfolio of issued patents includes five 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. The breadth of our intellectual property will also 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. The Russian data is particularly compelling in non-small cell lung cancer and platinum-resistant ovarian cancer, indications with large and growing unmet medical needs. In 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 represents 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 reinforced 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 mid-2009). In the nearer term, we plan to out-license NOV-002 in Europe and/or Japan and use resources from these potential arrangements to offset, in part, the expense of our development. In December 2007, we entered into a collaboration agreement with Lee's Pharmaceutical (HK) Ltd (which is 30% owned by Sigma-Tau Group) to develop, manufacture and commercialize NOV-002 for cancer and NOV-205 for hepatitis in Hong Kong, Macau, China and Taiwan.

In 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 will concentrate clinical development efforts on chronic hepatitis C, which should represent a more direct path to regulatory approval, as well as providing patients with an improved therapy regimen. In December 2007, based on a favorable safety profile, we concluded a U.S. Phase 1b clinical trial in chronic hepatitis C non-responders. We plan to commence a proof-of-concept trial in the second half of 2008 and will explore out-license opportunities for NOV-205 after completion of this trial.

**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 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, 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, 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, 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 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 being developed to be used in combination with chemotherapy for treatment of lung, ovarian and breast cancer.

***NOV-002 for Non-Small Cell Lung Cancer***

In the U.S., NOV-002 is in Phase 3 development for 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 340 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 2007. Over 550,000 U.S. cancer patients were expected to die in 2007, 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. Approximately 213,000 people were expected to be diagnosed with lung cancer in 2007, with over 160,000 deaths. According to a Rodman and Renshaw report dated December 2006, there are approximately 405,000 cases of lung cancer among industrial nations and the pharmaceutical market for treating lung cancer is currently approximately $800 million per year in the U.S. and $1.8 billion worldwide, expected to grow to greater than $8 billion by 2011. 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 December 2003 Credit Suisse First Boston and UBS reports and Phase 3 clinical trials conducted as recently as 2005, the one-year survival rate for first-line therapy is typically only about 35%, median survival is approximately 8.5 months and the objective tumor response rate is about 20%. 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 very expensive. Similarly, emerging 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 absence of 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, improved recovery from chemotherapy toxicity, potentiation of chemotherapy (increased survival rates and better anti-tumor effects) and low cost of manufacture. In a controlled randomized U.S. Phase 1/2 clinical trial, advanced NSCLC 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 expect that NOV-002 will be used in combination with first-line chemotherapy treatments and may be complementary to second-line and recently emerging third-line products. Furthermore, we expect 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 (including clinical safety and efficacy, 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 study was to demonstrate safety, detect trends towards efficacy, compare routes of administration and support initiation of a Phase 3 study. 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 mid-2009.

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 (patients who had not received prior chemotherapy) were randomized to one of three groups for six months of treatment:

- Group A: NOV-002, administered intravenously and intramuscularly, in combination with cytotoxic chemotherapy (carboplatin + paclitaxel).

- Group B: NOV-002, administered intravenously and subcutaneously, in combination with cytotoxic chemotherapy.

- 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 (e.g., complete or partial tumor shrinkage) showed that eleven out of sixteen (69%) NOV-002-treated patients in Group B demonstrated greater than 50% tumor shrinkage versus only five out of fifteen (33%) in the control group (C). Six out of thirteen (46%) patients in Group A demonstrated an objective response. The difference between groups B and C was statistically significant ($p=0.044$).

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

In St. Petersburg, Russia, a multi-center, randomized, open-label study was conducted more than ten years ago to evaluate the safety and efficacy of NOV-002 in patients with advanced non-small cell lung cancer. NOV-002, used in combination with chemotherapy, dramatically and significantly increased the one-year survival rate (63% treated group vs. 17% control, $p<0.01$). NOV-002 significantly improved patients' ability to conduct daily activities and quality of life, increased tolerance to chemotherapy, improved hematologic parameters and improved or normalized kidney/liver toxicity markers. As in the U.S. Phase 1/2 trial, patients receiving NOV-002 were able to receive significantly more cycles of chemotherapy. 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 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 2007 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 is 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 (which they previously failed to respond to) in conjunction with NOV-002. The observed 40% objective response rate across these case studies is much higher than would be expected in such patients. 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.

In a U.S. Phase 2 chemothereapy-resistant ovarian cancer trial at Massachusetts General Hospital and Dana-Farber Cancer Institute from July 2006 through March 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. Based on these results, we plan to initiate a second phase 2 trial in chemotherapy-resistant ovarian cancer patients in early 2009.

***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. Alberto Montero, MD, Assistant Professor of Medicine, Division of Hematology-Oncology, is the Principal Investigator.

Breast cancer remains a serious public health concern throughout the world. According to American Cancer Society, approximately 180,000 women in the US were expected to be diagnosed with breast cancer in 2007, and approximately 40,000 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 pCR following neoadjuvant chemotherapy is associated with a significantly higher probability of long-term survival. However, only a minority of patients with HER-2/neu 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 pathologic complete response (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.

To date, 16 women have been enrolled with four pCRs already demonstrated in the first eight women that have both completed chemotherapy and undergone surgery. Furthermore, NOV-002 was associated with decreased hematologic toxicities and with decreased use of growth factors relative to historical experience. Detailed results will be submitted for presentation at the San Antonio Breast Cancer Symposium in December 2008. Having achieved an interim efficacy target, even earlier than expected, the trial is moving into the second stage. Full enrollment of 46 patients is expected mid-2009, with trial conclusion in early 2010.

**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, according to a September 2006 publication of *Nature Reviews Drug Discover*y the current global market is believed to be in excess of $3 billion per year, growing to more than $8 billion by 2010. In the U.S., according to the Centers for Disease Control and Prevention, an estimated 3.9 million persons were infected with hepatitis C, and 2.7 million persons in the U.S. had chronic infection in 2003. Further, hepatitis C infections account for approximately 30,000 new infections and 8,000-10,000 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 were treated in previous anecdotal studies. After relatively short treatment periods (1-2 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 1-3 months of post-treatment follow-up. In addition, NOV-205 improved 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, 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 expect to initiate a longer duration proof-of-concept trial in the second half of 2008.

**Non-clinical Research Program**

Our non-clinical research program is aimed at (a) gaining a better understanding of the mechanism(s) of action of our oxidized glutathione-based drug products and (b) adding to the Russian non-clinical data information 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 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 mechanism(s) of action and to facilitate: (1) the design and execution of clinical studies, (2) the interactions with the FDA and (3) the interactions with others in the scientific community. Funded research collaborations are also underway at other academic/scientific institutions including Harvard/Massachusetts General Hospital, the Wistar Institute and the University of Massachusetts Medical Center 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 at Synthetech, Inc. (Albany, OR) in a single, very cost-effective synthetic step and then lyophilized into a powder at Oregon Freeze Dry, Inc. (Albany, OR). It is then filled, finished and packaged at Hyaluron (Burlington, MA) as a sterile, filtered, aseptically processed solution for intravenous, intramuscular and/or subcutaneous use. NOV-002 clinical trial material (vials containing the active pharmaceutical ingredient and solution) has successfully completed 36-month stability studies.

Similar to NOV-002, NOV-205's active pharmaceutical ingredient is manufactured in compliance with current Good Manufacturing Practices in a single, very cost effective, synthetic step at Synthetech, Inc. and then lyophilized into a powder at Oregon Freeze Dry, Inc. It is then filled, finished and packaged at Dalton Pharma Services Inc. (Toronto, Canada).

**Intellectual Property**

We own all intellectual property rights worldwide (excluding Russia and other states of the former Soviet Union) related to both clinical-stage compounds (i.e., NOV-002 and NOV-205) and other pre-clinical compounds based on oxidized glutathione. We have five 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.

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 May 1, 2008 we have twelve employees, ten of whom are 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 at this time 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 3,000 square feet and is rented for approximately $7,700 per month. This lease expires in August 2009. 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.

## SELLING STOCKHOLDERS

6,888,413 shares of common stock are being offered under this prospectus, all of which are being registered for sale for the account of the selling stockholders.

### 2005 Private Placement of Units Consisting of Common Stock and Warrants

We completed a private placement of units, each unit initially consisting of 20,000 shares of our common stock and a warrant to purchase 10,000 shares of our common stock, to the selling stockholders on May 27, 2005, June 29, 2005, July 29, 2005 and August 9, 2005 (the "Private Placement"). We sold an aggregate of 200 units in the Private Placement. Holders of our convertible debt in the amount of $550,000 converted the debt and interest into 22 of the 200 units. We issued a total of 4,000,000 shares of common stock and three-year warrants to purchase a total of 2,000,000 shares of common stock (the "Warrants") to the investors in the Private Placement. We received gross proceeds of $4,450,000 and net cash proceeds of $3,715,000 (after deducting finders' fees and transaction costs) from the Private Placement.

The selling stockholders listed in the table below are offering up to 6,888,413 shares of our common stock issuable upon exercise of the Warrants. When originally issued the total number of shares of common stock issuable upon exercise of the Warrants was 2,000,000 (at an exercise price of $2.25 per share). However, as a result of our subsequent sales of equity securities (most recently in April 2008) the aggregate number of shares of common stock issuable upon exercise has increased to 6,888,413 and the exercise price has decreased to $0.65 per share. None of the Warrants have been exercised and all expire on August 9, 2008. The registration statement, of which this prospectus is a part, is being filed pursuant to the terms of our registration rights agreements with these investors.

### Registration Rights

In accordance with registration rights granted to the investors in the Private Placement, we filed a Registration Statement on Form SB-2 (Reg. No. 333-129744) on November 16, 2005 (the "Original Registration Statement") registering, among other shares of common stock and common stock issuable upon conversion of preferred stock, all the shares of common stock issued in the Private Placement and 2,727,200 shares of common stock issuable upon exercise of the Warrants. The Original Registration Statement was declared effective on December 15, 2005.

On November 17, 2006 we filed Post-Effective Amendment No. 2 to the Original Registration Statement on Form SB-2 (Reg. No. 333-133043) which was a combined registration statement which also constituted Post-Effective Amendment No. 1 to another registration statement that we filed on April 6, 2006 (the "Combined Registration Statement"). The aggregate number of shares of common stock covered by the Combined Registration Statement was 34,285,449, including the 2,727,200 shares of common stock issuable upon exercise of the Warrants. The Combined Registration Statement was declared effective on November 21, 2006.

Our obligation to maintain an effective registration statement as to the shares of common stock issued in the Private Placement expired in August 2007. Similarly, our obligation to maintain an effective registration statement as to the other shares of common stock and common stock issuable upon exercise of warrants or conversion of preferred stock included in the Combined Registration Statement expired in March 2008. As a result of the expiration of these obligations, we filed on May 22, 2008, a post-effective amendment to the Combined Registration Statement to deregister all such shares that were registered pursuant to the Combined Registration Statement but had not been sold thereunder.

We also deregistered the 2,727,200 shares of common stock issuable upon exercise of the Warrants since we could not, in a post-effective amendment, increase the number of shares of common stock being registered as necessitated by the increase in the number of shares of common stock issuable upon exercise of the Warrants. However, we remain obligated to keep the shares of common stock issuable upon exercise of the Warrants registered until all such shares have been sold or may be sold without volume restrictions under Rule 144. This obligation is the reason for the filing of this registration statement.

We are filing this registration statement to register the 2,727,200 shares of common stock issuable upon exercise of the Warrants that were previously included under the Combined Registration Statement and to register an additional 4,161,213 shares of common stock that are now issuable upon exercise of the Warrants as a result of anti-dilution adjustments in connection with our subsequent sales of equity securities (most recently in April 2008). Such adjustments increased the number of shares of common stock issuable upon exercise of the Warrants to 6,888,413.

The Warrants expire on August 9, 2008 if they are not exercised. Upon the expiration of the Warrants we will no longer have any obligation to keep this registration statement effective (or in the event the Warrants are exercised prior to August 9, 2008 we will be obligated to keep this registration statement effective for a period of six months at which time the shares of common stock issued upon exercise of the Warrants will be eligible to be sold without volume restrictions under Rule 144).

**Relationships with Selling Stockholders**

On September 30, 2005 and October 3, 2005 we sold an aggregate of 3,200 shares of our Series A preferred stock and warrants to purchase 969,696 shares of our common stock to Longview Fund LP and two of its affiliates and Sunrise Equity Partners L.P. We also entered into a registration rights agreement with Longview Fund LP and Sunrise Equity Partners L.P. to register the shares of common stock issuable upon conversion of the Series A preferred stock and exercise of the warrants. Those shares were registered on the Original Registration Statement and the Combined Registration Statement until we deregistered them on May 22, 2008 pursuant to the Post-Effective Amendment No. 3 to the Combined Registration Statement.

On May 2, 2007, we sold 1,500 shares of our Series B convertible preferred stock and issued warrants to purchase 7,500,000 shares of our common stock to certain accredited investors for an aggregate purchase price of $15,000,000. As a condition to closing the Series B preferred stock and warrant financing, the holders of our Series A preferred stock, including Longview Fund LP and Sunrise Equity Partners L.P., exchanged all 3,264 shares of their Series A preferred stock for 272 shares of a new Series C convertible preferred stock, the rights and preferences of which are junior to the Series B preferred stock. As an inducement for the holders of the Series A preferred stock to exchange their shares, we issued warrants to purchase 1,333,333 shares of our common stock and paid them a cash allowance to defray expenses totaling $40,000 and an amount equal to unpaid dividends accumulated on the Series A preferred stock through the date of the exchange.

**Selling Stockholders Table**

The following table sets forth, to the best of our knowledge, the approximate number of shares beneficially owned as of May 12, 2008 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 that may be exercised within 60 days after May 12, 2008. The “Shares Offered” column reflects all of the shares that each selling stockholder may offer under this prospectus. Percentage ownership is based on 39,360,272 shares issued and outstanding as of May 12, 2008. The table assumes that the selling stockholders sell all of the shares.

We prepared the table below based on our records and information supplied to us by the selling stockholders and other available information. 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 all or some 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 common stock purchase warrants provide that the number of shares to be obtained by each of the holders of warrants, upon 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% 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.

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 in "Relationships with Selling Stockholders" or in the footnotes to the selling stockholders table and the ownership of common stock, none of the selling stockholders had any material relationship with us within the past three years.

**Selling Stockholders**

| | Beneficial Ownership Prior to Offering | | | | Beneficial Ownership After Offering | | |
|---|---|---|---|---|---|---|---|
| Name of Beneficial Owner | Outstanding | Right to Acquire | Total | Shares Offered | Outstanding | Right to Acquire | Percent |
| Anthony Abenante | 20,000 | 34,615 | 54,615 | 34,615 | 20,000 | 0 | * |
| ALE Industries- Albert Jacobs | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Alpha Capital AG | 129,322 | 596,923(3) | 726,245 | 276,923 | 129,322 | 320,000 | 1.1% |
| John Wayne Andrews | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Sergey Babchin | 771,229 | 69,230 | 840,459 | 69,230 | 771,229 | 0 | 2.0% |
| John Barnhardt | 0 | 69,230 | 69,230 | 69,230 | 0 | 0 | * |
| Jerome Belson | 0 | 173,076 | 173,076 | 173,076 | 0 | 0 | * |
| Andrey Beltov | 795,871 | 69,230 | 865,101 | 69,230 | 795,871 | 0 | 2.0% |
| Walter Bernheimer | 110,000 | 34,615 | 144,615 | 34,615 | 110,000 | 0 | * |
| Family Ltd. Partnership Bernheimer | 50,000 | 34,615 | 84,615 | 34,615 | 50,000 | 0 | * |
| Harvey Blitz | 60,000 | 69,230 | 129,230 | 69,230 | 60,000 | 0 | * |
| Erno Bodek | 185,000 | 276,923 | 461,923 | 276,923 | 185,000 | 0 | * |
| Gerald Brauser | 290,000 | 519,230 | 809,230 | 519,230 | 290,000 | 0 | * |
| Richard J. & Joan M. Brown | 0 | 69,230 | 69,230 | 69,230 | 0 | 0 | * |
| Allen O. & Jolaine Cage | 40,000 | 103,846 | 143,846 | 103,846 | 40,000 | 0 | * |
| Camden International | 5,000 | 298,461(3) | 303,461 | 138,461 | 5,000 | 160,000 | * |
| Ron Cater | 30,000 | 34,615 | 64,615 | 34,615 | 30,000 | 0 | * |
| Margie Chassman | 9,100 | 138,460 | 147,560 | 138,460 | 9,100 | 0 | * |
| Simon Clarke | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Leonard Cohen | 20,000 | 69,230 | 89,230 | 69,230 | 20,000 | 0 | * |
| Frank A. & Carol A. Consolati | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Harold E. & Connie L. Crowley | 0 | 69,230 | 69,230 | 69,230 | 0 | 0 | * |
| Peter D'Arienzo | 30,000 | 34,615 | 64,615 | 34,615 | 30,000 | 0 | * |
| Frank DeCarolis | 95,000 | 34,615 | 129,615 | 34,615 | 95,000 | 0 | * |
| Ulrich Eilers | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Richard G. & Kenneth S. Etra | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Chris Everest IRA | 20,000 | 34,615 | 54,615 | 34,615 | 20,000 | 0 | * |
| Frank Fila | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Anthony J. Fortunato | 413,595 | 34,615 | 448,210 | 34,615 | 413,595 | 0 | 1.1% |

| | Beneficial Ownership Prior to Offering | | | | Beneficial Ownership After Offering | | |
|---|---|---|---|---|---|---|---|
| Name of Beneficial Owner | Outstanding | Right to Acquire | Total | Shares Offered | Outstanding | Right to Acquire | Percent |
| Eugene Fridman | 32,122 | 34,615 | 66,737 | 34,615 | 32,122 | 0 | * |
| Boris Friedberg | 40,000 | 69,230 | 109,230 | 69,230 | 40,000 | 0 | * |
| Vitaliy Gassel | 30,498 | 20,769 | 51,267 | 20,769 | 30,498 | 0 | * |
| Joseph Giamanco | 0 | 276,922 | 276,922 | 276,922 | 0 | 0 | * |
| A. George Gitter, Trust C, GST Exempt | 160,000 | 276,923 | 436,923 | 276,923 | 160,000 | 0 | * |
| Dennis Glynn | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Anna & Max Goldfarb | 25,000 | 91,730 | 116,730 | 91,730 | 25,000 | 0 | * |
| Klatte Golf, L.P. | 80,000 | 138,461 | 218,461 | 138,461 | 80,000 | 0 | * |
| Mark Stephen Goodman | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Herbert A. & Lily A. Gordon | 20,000 | 34,615 | 54,615 | 34,615 | 20,000 | 0 | * |
| Lawrence Gould | 20,000 | 34,615 | 54,615 | 34,615 | 20,000 | 0 | * |
| Russell Green | 25,750 | 55,722(4) | 81,472 | 34,615 | 25,750 | 21,107 | * |
| James D. & Karen J. Griffith | 0 | 69,230 | 69,230 | 69,230 | 0 | 0 | * |
| Salvatore Guerrera | 0 | 69,230 | 69,230 | 69,230 | 0 | 0 | * |
| Stuart Hanford | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Colin J. & Gursharn K. Harvey | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Willie Hines | 23,000 | 34,615 | 57,615 | 34,615 | 23,000 | 0 | * |
| Jasuns Holdings Ltd. | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Dr. Vincent & Betty L. John | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Robert & Margaret R. Kenwrick | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Gary Kessler | 20,000 | 34,615 | 54,615 | 34,615 | 20,000 | 0 | * |
| Michael Koral | 292,000 | 34,615 | 326,615 | 34,615 | 292,000 | 0 | * |
| Michael Lane | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Richard Lazarow | 12,000 | 34,615 | 46,615 | 34,615 | 12,000 | 0 | * |
| Carlos C. Lee | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Julian Lender | 16,000 | 27,692 | 43,692 | 27,692 | 16,000 | 0 | * |
| Stolpe Family Limited Partnership | 80,000 | 138,461 | 218,461 | 138,461 | 80,000 | 0 | * |
| Lev Lisser | 115,667 | 146,922(4) | 262,589 | 103,846 | 115,667 | 43,076 | * |
| Anna Lisser | 22,500 | 34,615 | 57,115 | 34,615 | 22,500 | 0 | * |
| Keith and Patricia Little, FLP. | 40,000 | 69,230 | 109,230 | 69,230 | 40,000 | 0 | * |
| Mark Livshitz | 49,154 | 34,615 | 83,769 | 34,615 | 49,154 | 0 | * |
| Longview Fund LP | 0 | 5,025,547(3)(5) | 5,025,547 | 207,692 | 0 | 4,817,855 | 10.9% |
| Chris Marley | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Bruce R. Mathias | 20,000 | 106,153(4) | 126,153 | 69,230 | 20,000 | 36,923 | * |
| Albert Mazler | 20,000 | 34,615 | 54,615 | 34,615 | 20,000 | 0 | * |
| Andrey Mazo | 32,690 | 33,526(6) | 66,216 | 32,884 | 32,690 | 642 | * |
| Ronald J. Menello | 68,000 | 207,691 | 275,691 | 207,691 | 68,000 | 0 | * |
| Robert Mynett | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Derek Neesam | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Dennis A. Noyes | 20,000 | 34,615 | 54,615 | 34,615 | 20,000 | 0 | * |
| Francis G. O'Connor | 9,605 | 34,615 | 44,220 | 34,615 | 9,605 | 0 | * |
| Richard Olson | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Brian Oregan | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Gerald Ortsman | 24,700 | 34,615 | 59,315 | 34,615 | 24,700 | 0 | * |
| Rick Perlmutter | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Lauren Pozefsky, Irrevocable Trust | 20,000 | 34,615 | 54,615 | 34,615 | 20,000 | 0 | * |
| Andrew Richards | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Michael H. Rock | 0 | 69,230 | 69,230 | 69,230 | 0 | 0 | * |
| Joseph Roda | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Dr. Daniel Rosberger | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Joseph C. Roselle (1) | 40,000 | 69,230 | 109,230 | 69,230 | 40,000 | 0 | * |

| Name of Beneficial Owner | Beneficial Ownership Prior to Offering | | | Shares Offered | Beneficial Ownership After Offering | | |
|---|---|---|---|---|---|---|---|
| | Outstanding | Right to Acquire | Total | | Outstanding | Right to Acquire | Percent |
| Philip Rushby | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Albert L. Saphier IRA | 20,000 | 34,615 | 54,615 | 34,615 | 20,000 | 0 | * |
| SCG Capital (1) (2) | 0 | 69,230 | 69,230 | 69,230 | 0 | 0 | * |
| Adam Schacter (1)(2) | 17,500 | 34,615 | 52,115 | 34,615 | 17,500 | 0 | * |
| Irwin Schacter (1)(2) | 35,000 | 34,615 | 69,615 | 34,615 | 35,000 | 0 | * |
| Steve Schnipper | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Guido Schoeb | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Duncan Scott | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Fred B. & John Sheats & Molis, Joint Tenants | 6,000 | 34,615 | 40,615 | 34,615 | 6,000 | 0 | * |
| Isaak Shklyarov | 40,000 | 69,230 | 109,230 | 69,230 | 40,000 | 0 | * |
| David M. Solomon | 130,000 | 69,230 | 199,230 | 69,230 | 130,000 | 0 | * |
| Alvin & Sharon Spearman | 17,500 | 34,615 | 52,115 | 34,615 | 17,500 | 0 | * |
| Nick Stock | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Ira Stollar | 20,000 | 34,615 | 54,615 | 34,615 | 20,000 | 0 | * |
| David Sukoff | 113,750 | 34,615 | 148,365 | 34,615 | 113,750 | 0 | * |
| Sunrise Equity Partners, L.P. | 185,185 | 903,122(7) | 1,088,307 | 276,923 | 185,185 | 626,199 | 2.0% |
| Richard & Janet Sygar | 70,000 | 34,615 | 104,615 | 34,615 | 70,000 | 0 | * |
| Certified Systems | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Alan & Sheena Taylor | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Andrew Telford | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Owen James Truelove | 0 | 34,615 | 34,615 | 34,615 | 0 | 0 | * |
| Herbert Weisberger | 2,800 | 34,615 | 37,415 | 34,615 | 2,800 | 0 | * |

* Less than 1%

(1) The selling stockholder has represented in its Selling Securityholder Notice and Questionnaire that he is an “affiliate” of a broker-dealer, and has certified in such Questionnaire that he purchased his securities in the ordinary course of business, and that at the time of such purchase, he had no agreement or understandings, directly or indirectly, with any person to distribute the securities registered hereunder.

(2) The selling securityholder has represented in its Selling Securityholder Notice and Questionnaire that it/he is a broker-dealer.

(3) In our bridge financing in April 2005, we issued common stock purchase warrants to purchase an aggregate of 720,000 shares of our common stock. Alpha Capital AG received warrants to purchase 320,000 shares, Camden International received warrants to purchase 160,000 shares and Longview Fund LP received warrants to purchase 240,000 shares.

(4) Includes shares of common stock issuable with respect to warrants paid as a finders’ fee in connection with our private placement transactions of units: Russell Green 21,107 shares; Lev Lisser 43,076 shares; Bruce Mathias 36,923 shares.

(5) Includes 3,138,461 shares of common stock issuable upon the conversion of Series C convertible preferred stock and a total of 1,439,394 shares of common stock issuable upon the exercise of warrants issued in connection with the sale of Series A convertible preferred stock and the subsequent exchange of shares of Series A preferred stock for shares of Series C preferred stock.

(6) Shares in the “Right to Acquire” column include all shares issuable upon exercise of options that may be exercised within 60 days from May 12, 2008.

(7) Includes 313,846 shares of common stock issuable upon the conversion of Series C convertible preferred stock, a total of 143,939 shares of common stock issued upon exercise of warrants issued in connection with the sale of Series A convertible preferred stock and the subsequent exchange of shares of Series A preferred stock for shares of Series C preferred stock and 168,414 shares of common stock issuable upon exercise of warrants issued in connection with a private placement during 2006.

**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 investors, with us, or any of our predecessors or affiliates, over the past three years. Certain 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 |
|---|---|
| Alpha Capital AG | Konrad Ackerman, Raines Posch |
| Family Ltd. Partnership Bernheimer | Walter Bernheimer II |
| Camden International | Anthony L.M. Inder Rieden |
| A. George Gitter, Trust C, GST Exempt | S. Alexei Gitter |
| Jasuns Holdings Ltd. | James Pearman |
| Stolpe Family Limited Partnership | Duane Stolpe |
| Keith and Patricia Little, FLP | Keith Little |
| Klatte Golf, L.P. | Michael Klatte |
| Longview Fund LP | Peter T. Benz |
| Lauren Pozefsky, Irrevocable Trust | Abby L. Pozefsky |
| SCG Capital | Steven Geduld |
| Sunrise Equity Partners, L.P. | Marilyn Adler, Nathan Low and Amnon Mandelbaum |

## 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 April 11, 2008, we had designated 400 shares of Series B convertible preferred stock, none of which were issued and outstanding on that date; 272 shares of Series C cumulative convertible preferred stock, all of which were issued and outstanding as of that date and 420 shares of Series D convertible preferred stock, 413.5 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 has 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 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. Such dividends shall be paid in cash. Upon the occurrence of an event of default (as defined in the Series C Certificate of Designations) the dividend rate shall increase to 20%.

*Conversion:* Each share of Series C preferred stock is convertible at a price of $1.00 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 B 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 B preferred stock as may be required) on a pro rata basis.

**Series D Convertible Preferred Stock**

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

*Voting and Board Rights:* The Series D 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 D preferred stock is entitled is equal to the number of shares of common stock that would be issued to such holder if the Series D Preferred Stock had been converted at the record date for the meeting of stockholders.

Pursuant to the Securities Purchase Agreement dated March 26, 2008 from and after the closing of the sale of the Series D preferred stock, Xmark Opportunity Fund, Ltd. and its affiliates (the "Xmark Entities"), will have the right to designate one member to our Board of Directors. This right shall last until such time as the Xmark Entities no longer hold at least one-third of the Series D preferred stock issued to them at closing. In addition, the Xmark Entities and Caduceus Capital Master Fund Limited and its affiliates (together with the Xmark Entities, the "Lead Investors") will have the right to designate one observer to attend all meetings of our Board of Directors, committees thereof and access to all information made available to members of the Board. This right shall last until such time as the Lead Investors no longer hold at least one-third of the Series D preferred stock issued to them.

*Dividends:* The Series D preferred stock has a dividend rate of 9% per annum, payable semi-annually. Such dividends may be paid in cash or in registered shares of common stock. While any shares of Series D 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 D holders. If consent is given, the holders of outstanding shares of Series D preferred stock are also entitled to participate in any dividends paid to common stockholders.

We have the financial ability to make all dividend payments and, if necessary, any payments for liquidated damages, to the Series D Preferred Stock investors. Following the closing of the sale of Series D preferred stock, we have approximately $11,000,000 of cash and cash equivalents and approximately $3,000,000 of capital surplus available for payment of dividends. Furthermore, the dividends on the Series D Preferred Stock are payable in cash or shares of our common stock, at our option.

*Conversion:* Each share of Series D preferred stock is convertible at a price of $0.65 per common share at any time after issuance. The Series D preferred stock can be converted only to the extent that the Series B 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 D preferred stock and the daily volume weighted average price ("VWAP"), as defined in the Series D Certificate of Designations, of our common stock exceeds $2.00 for 20 consecutive trading days, then the outstanding Series D preferred stock will automatically convert into common stock at the conversion price then in effect.

*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 D preferred stock will be equivalent to the conversion rights of the Series D preferred stock stockholders prior to such event.

*Liquidation:* The Series D preferred stock ranks senior to all other outstanding series of preferred stock and common stock as to the payment of dividends and the distribution of assets upon voluntary or involuntary liquidation, dissolution or winding up of our affairs. The Series D preferred stockholders will be entitled to receive first, $50,000 per share and all accrued and unpaid dividends. They are then entitled to participate with the holders of the 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 D Preferred Stock are not sufficient to permit the payment in full, then all our assets will be distributed to the holders of our Series D 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 D Preferred Stock) acquires more than 50% of our outstanding stock, then the holders of Series D preferred stock are entitled to receive the same liquidation preference as described above, except that after receiving $50,000 per preferred share and any accrued but unpaid dividends, they are not entitled to participate with other classes or common stock in a distribution of the remaining assets.

*Other restrictions:* For as long as any shares of Series D Preferred Stock remain outstanding, 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 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 other than the shares designated in the Series D Certificate of Designations; (v) selling 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 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 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.

*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.

## PLAN OF DISTRIBUTION

Each selling stockholder and any of their pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their shares of common stock on the OTC Bulletin Board or any other stock exchange, market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed or negotiated prices. A selling stockholder may use any one or more of the following methods when selling shares:

- 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;
- settlement of short sales entered into after the date of this prospectus;
- 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;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise; or
- any other method permitted pursuant to applicable law.

The selling stockholders may also sell shares under Rule 144 under the Securities Act of 1933, as amended, if available, rather than under this prospectus.

Broker-dealers engaged by the selling stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with NASD Rule 2440; and in the case of a principal transaction a markup or markdown in compliance with NASD IM-2440.

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 our 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 our 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 selling stockholders and any broker-dealers or agents that are involved in selling the shares may be deemed to be ‘‘underwriters’’ within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each selling stockholder has informed us that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute our common stock.

We are required to pay certain fees and expenses incurred by us incident to the registration of the shares. We have agreed to indemnify the selling stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

Because selling stockholders may be deemed to be ‘‘underwriters’’ within the meaning of the Securities Act, they will be subject to the prospectus delivery requirements of the Securities Act. In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than under this prospectus. Each selling stockholder has advised us that they have not entered into any written or oral agreements, understandings or arrangements with any underwriter or broker-dealer regarding the sale of the resale shares. There is no underwriter or coordinating broker acting in connection with the proposed sale of the resale shares by the selling stockholders.

We agreed to keep this prospectus effective until the earlier of (i) the date on which the shares may be resold by the selling stockholders without registration and without regard to any volume limitations by reason of Rule 144(e) under the Securities Act or any other rule of similar effect or (ii) all of the shares have been sold pursuant to the prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The resale shares will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale shares may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale shares may not simultaneously engage in market making activities with respect to our common stock for a period of two business days prior to the commencement of the distribution. In addition, the selling stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of shares of our common stock by the selling stockholders or any other person. We will make copies of this prospectus available to the selling stockholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale.

## 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 registrant pursuant to the foregoing provisions, or otherwise, the registrant 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 450 Fifth Street, N.W., 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 have audited our financial statements as of December 31, 2007 and 2006 and for the years then ended. These financial statements are incorporated by reference in this prospectus with reliance upon the independent registered public accounting firm's opinion based on its expertise in accounting and auditing.

## INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to "incorporate by reference" the information we file with them, which means that we can disclose important information to you by referring you to those documents instead of having to repeat the information in this prospectus. The information incorporated by reference is considered to be part of this prospectus. We are incorporating by reference our Annual Report on Form 10-KSB for the fiscal year ended December 31, 2007 filed with the SEC on March 24, 2008, our Current Reports on Form 8-K filed with the SEC on March 29, 2008 and April 14, 2008 and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2008 filed with the SEC on May 14, 2008 (the "Reports"). We will provide without charge to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, upon written or oral request, a copy of the Reports (not including exhibits to such documents unless such exhibits are specifically incorporated by reference to such document). Requests should be directed to: Novelos Therapeutics, Inc., One Gateway Center, Suite 504, Newton, Massachusetts 02458; Telephone: (617) 244-1616. The reports can also be accessed online through our website at www.novelos.com.