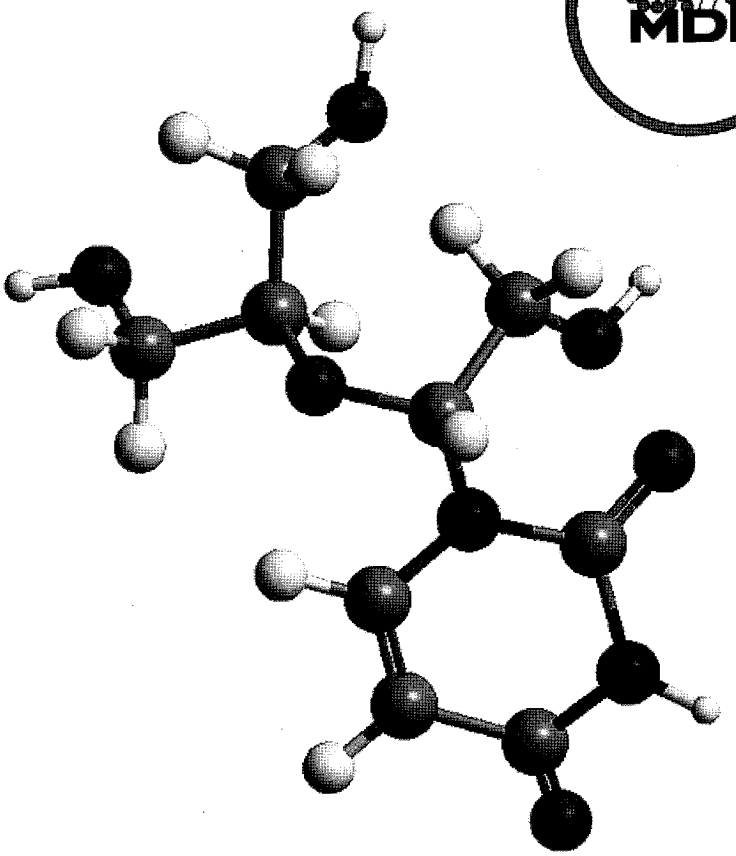


MDRNA, INC.
2009 ANNUAL REPORT

June 2010

To my fellow shareholders,

Last year in my letter to you, I described how we had successfully transitioned MDRNA, Inc. from a clinical-stage drug delivery company to a pre-clinical RNAi-based drug discovery company. I also stated that we would then have to further build the company to ultimately regain shareholder value. Over the past year, I believe we have taken significant steps to successfully rebuild the company. In particular, pending the acquisition of Cequent Pharmaceuticals, we will have fully progressed from a pre-clinical RNAi-based drug discovery company to a **clinical-stage** RNAi-based drug discovery **AND** development company. Most importantly, we accomplished this within one year – quite a feat for any biotechnology company, but all the more impressive given the status of our company in June of 2008 and the global macro-economic turmoil that followed over the last two years.

In the past year we have built upon our science, our intellectual property portfolio, our pharmaceutical partnerships, our clinical pipeline and our management and research teams.

Building Science –We have demonstrated the unique and novel characteristics of both our UsiRNA constructs and our DiLA^2 delivery technology. We are one of a few RNAi therapeutics companies to have a combined siRNA construct/delivery drug discovery platform. With the pending Cequent acquisition, we will have added another RNAi-based drug discovery engine further expanding our ability to find *the right platform for the right indication.*

Building Intellectual Property Portfolio – We have seen the allowance and issuances of several patents related to our proprietary delivery technologies and have acquired key intellectual property related to novel chemistries which provide us the ability to develop RNA-based therapeutics and diagnostics.

Building Pharmaceutical Partnerships – We established five early collaborative efforts all of which are on-going relationships with large international pharmaceutical companies. We see each of these early collaborations as an initial step towards broader R&D collaborations. We realize that a strong working relationship is a critical component of a successful research experience and we believe that a collaborative atmosphere is key to a partner's decision to expand the relationship. We feel strongly that these collaborative efforts will result in further validation of our RNAi-drug discovery engine and lead to the establishment of multi-year target and/or therapeutic based research and development collaborations. We believe we can close two of these collaborations in 2010.

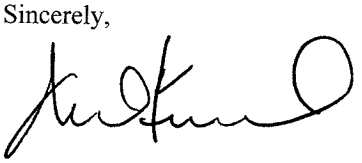
Building Clinical Pipeline – We have made important progress in our oncology pipeline completing *in vivo* proof-of-concept in both bladder cancer and liver cancer. With the pending acquisition of Cequent, we will have a clinical stage program in Familial Adenomatous Polyposis (FAP) with the expectation of first-in-man dosing in the third quarter of this year.

Building Management & Research Teams – We built out our management team by hiring Peter Garcia as our Chief Financial Officer and June Ameen as our Vice President, Corporate Development. With Pete, June, Barry Polisky – our Chief Scientific Officer – and the team at Cequent, we believe we now have the key leadership necessary to fully recognize the potential of our new combined company.

In summary, it's been a tremendous year of building and growth for the company. We believe we have created the premier RNAi therapeutics company in the industry.

On behalf of our Board of Directors and our team, I would like to express my most sincere appreciation to all our shareholders for your unwavering confidence and support over the past year.

Sincerely,



J. Michael French
President and Chief Executive Officer

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

Form 10-K

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

For the fiscal year ended December 31, 2009

Commission File Number 000-13789

MDRNA, INC.

(Exact name of registrant as specified in its charter)

Delaware	**11-2658569**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*
3830 Monte Villa Parkway Bothell, Washington	**98021**
(Address of principal executive offices)	*(Zip Code)*

Registrant's telephone number, including area code:
(425) 908-3600

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $0.006 par value	The Nasdaq Stock Market LLC
Preferred Stock Purchase Rights, $0.01 par value	The Nasdaq Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act:

Title of Each Class

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☑

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes ☐ No ☑

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☐ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☑

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

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act.) Yes ☐ No ☑

The aggregate market value of the voting stock held by non-affiliates of the Registrant was approximately $55.9 million as of June 30, 2009 based upon the closing price of $1.38 per share on the Nasdaq Global Market reported on June 30, 2009.

As of March 15, 2010, there were 48,777,498 shares of the Registrant's $0.006 par value common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive proxy statement for the Registrant's fiscal year ended December 31, 2009, to be filed by the Registrant with the SEC not later than 120 days from the end of the Registrant's fiscal year ended December 31, 2009, in conjunction with the Registrant's annual meeting of stockholders, are incorporated by reference in Part III of this Form 10-K.

MDRNA, INC.

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FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K and the documents incorporated herein by reference contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These forward-looking statements reflect our current views with respect to future events or our financial performance, and involve certain known and unknown risks, uncertainties and other factors, including those identified below, which may cause our or our industry's actual or future results, levels of activity, performance or achievements to differ materially from those expressed or implied by any forward-looking statements or from historical results. We intend such forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in Section 27A of the Securities Act and Section 21E of the Exchange Act. Forward-looking statements include information concerning our possible or assumed future results of operations and statements preceded by, followed by, or that include the words "may," "will," "could," "would," "should," "believe," "expect," "plan," "anticipate," "intend," "estimate," "predict," "potential" or similar expressions.

Forward-looking statements are inherently subject to risks and uncertainties, many of which we cannot predict with accuracy and some of which we might not even anticipate. Although we believe that the expectations reflected in such forward-looking statements are based upon reasonable assumptions at the time made, we can give no assurance that such expectations will be achieved. Future events and actual results, financial and otherwise, may differ materially from the results discussed in the forward-looking statements. Readers are cautioned not to place undue reliance on these forward-looking statements. We have no duty to update or revise any forward-looking statements after the date of this Annual Report on Form 10-K and the documents incorporated herein by reference or to conform them to actual results, new information, future events or otherwise.

The following factors, among others, could cause our or our industry's future results to differ materially from historical results or those anticipated:

- our ability to obtain additional funding for our company;
- the success or failure of our research and development programs or the programs of our partners;
- our efforts to collaborate with pharmaceutical and biotechnology companies to develop products;
- our ability to obtain governmental approvals, including product and patent approvals;
- our ability to attract and retain our key officers and employees;
- costs associated with any product liability claims, patent prosecution, patent infringement lawsuits and other lawsuits;
- our ability to maintain our listing on The Nasdaq Global Market; and
- our ability to develop and commercialize our products before our competitors.

These factors are the important factors of which we are currently aware that could cause actual results, performance or achievements to differ materially from those expressed in any of our forward-looking statements. We operate in a continually changing business environment, and new risk factors emerge from time to time. Other unknown or unpredictable factors also could have material adverse effects on our future results, performance or achievements. We cannot assure you that projected results or events will be achieved or will occur.

PART I

ITEM 1. *Business.*

OVERVIEW AND BUSINESS STRATEGY

We are a biotechnology company focused on the discovery, development and commercialization of pharmaceuticals based on RNA interference ("RNAi"). Our goal is to be the leader in RNAi therapeutics and improve human health through the development of RNAi-based compounds that provide superior therapeutic options for patients. Our team of approximately 30 scientists brings expertise in the discovery, evaluation and optimization of small interfering RNAs ("siRNAs") as well as siRNA delivery. We have the requisite experience in the areas of RNAi, molecular and cellular biology, lipid, oligonucleotide and peptide chemistry, pharmacology and bioinformatics necessary to discover and develop tailored RNAi-based compounds designed to elicit specific therapeutic effects on a target-by-target basis. Our infrastructure provides for pre-clinical scale manufacturing of both siRNAs and delivery materials, the comprehensive analysis and optimization of these compounds both individually and as drug candidates, and the filing of Investigational New Drug Applications. In addition to our own, internally developed technologies, we strategically in-license and further develop RNAi- and delivery-related technologies, forming a single integrated drug discovery platform. In order to protect our innovations, which encompass a broad platform of both siRNA and delivery technologies, and the eventual drug products that emerge from that platform, we will aggressively continue to build upon our extensive and enabling intellectual property ("IP") estate.

Our business strategy is two-fold. First, we strive to establish collaborations and strategic partnerships with pharmaceutical and biotechnology companies in the area of RNAi-based therapeutics to: (1) generate revenue and non-dilutive financing; (2) gain access to technical resources; and (3) validate our drug discovery platform. Secondly, we expect to advance our own pipeline of RNAi-based therapeutics as a foundation upon which to improve all aspects of our drug discovery platform and to have the opportunity to commercialize drug therapies. Our pipeline is focused on bladder and liver cancer. With respect to collaborations and strategic partnerships, we are currently focused on our UsiRNA constructs, as well as our DiLA^2 and peptide delivery technologies. Collaborations are expected to range from feasibility studies to development of full scale therapeutic candidates. Typically, we would expect to collaborate with partners who can take a drug candidate through to commercialization by utilizing their late stage clinical development, regulatory, marketing and sales capabilities. We expect to structure our collaborative arrangements in such a manner to receive upfront non-refundable payments, research and development funding, milestone payments and royalties on commercial sales of products.

We believe we have established ourselves as a leading RNAi-based therapeutics company by leveraging our broad and proven expertise in RNAi science and delivery into an industry-leading RNAi drug discovery platform, which is protected by a strong IP position and validated through licensing agreements with two large international pharmaceutical companies.

RESEARCH AND DEVELOPMENT

Our research and development personnel are organized into functional teams that include pharmacology, toxicology, chemistry, formulation, cell biology, bioinformatics, process development and project management. We conduct our research and development activities at our headquarters in Bothell, Washington. We anticipate that our research and development costs will increase in 2010 compared to 2009 due to the continued investment in our RNAi-based programs.

RNAi-BASED THERAPEUTICS

Overview

We are developing novel technologies and therapeutics based on the Nobel Prize-winning discovery of RNAi. The discovery of RNAi, in 1998, has led not only to its widespread use in the research of biological mechanisms and target validation but also to its application in down regulating the expression of certain disease-

causing proteins found in a wide spectrum of diseases including inflammation, cancer, and metabolic dysfunction. RNAi-based therapeutics work through a naturally occurring process within cells that has the effect of reducing levels of messenger RNA (mRNA) required for the production of proteins. RNAi enables the targeting of disease at a genetic level and thus is highly specific to particular disease-causing proteins. At this time, several RNAi-based therapeutics are being evaluated in human clinical trials.

We have created a drug discovery platform, which combines novel and proprietary siRNA constructs with novel and proprietary siRNA delivery technologies, to develop RNAi-based therapeutics for the treatment of human diseases. In 2009, we demonstrated pre-clinical efficacy with our UsiRNA constructs and DiLA^2-based delivery with local and systemic routes of administration in rodent models of bladder and liver cancer, respectively. Based on successful data for RNAi-mediated inhibition of target mRNA expression and reduction in tumor growth, our oncology programs and resources in this area have been focused on bladder and liver cancer (hepatocellular carcinoma — HCC). In a further advance of these platforms, studies in non-human primates have demonstrated effective delivery to hepatocytes following systemic administration of DiLA^2-based formulations. As with the cancer models, the UsiRNA construct provided the active portion of the drug product and these data along with *in vitro* and *in vivo* data against numerous targets confirms the high potency of the UsiRNA construct for RNAi. UsiRNAs have also been demonstrated to provide significant advantages over standard siRNA such as the ability to prevent participation of the passenger (non-targeting) strand in RNAi and increased specificity of the guide (targeting) strand by minimizing miRNA like effects.

We intend to build on our pre-clinical oncology successes as we move these programs toward early clinical studies. In addition, we will continue to increase the breadth and capabilities of our drug discovery platform including further demonstration of the unique advantages and potency of the UsiRNA construct, increasing the breadth of the DiLA^2 delivery platform, and advancing additional proprietary delivery technologies. Our business model anticipates that the advancement of a therapeutic pipeline, either through partnerships or on our own, will provide proof of concept for our drug discovery platform as well as value for shareholders.

RNAi Drug Discovery Platform

We are making advances in both areas crucial to the development of RNAi-based therapeutics: siRNA constructs and siRNA delivery. Although each is equally important to the development of an effective therapeutic, the scientific challenges of delivery appear to be one of the most significant obstacles to the broad use of RNAi-based therapeutics in the treatment of human diseases.

siRNA Constructs. Our siRNA constructs include novel substitution chemistry (Unlocked Nucleobase Analogs, or "UNAs"), and a novel three-stranded construct ("Meroduplex"). Data generated so far by our scientists have shown impressive efficacy in cellular and *in vivo* models, and these proprietary technologies represent significant promise for the field and for our business prospects.

Our UsiRNAs, similar to siRNAs but with substitution of UNA bases in place of RNA bases in key regions of the duplex, have shown important advantages in terms of efficacy and safety, when compared to standard siRNA molecules and modifications. UsiRNAs are highly active in rodent-based disease models, non-disease rodent models, and non-human primates, and function by RNAi to cleave their mRNA target and decrease the production of the associated protein, and in the case of bladder and liver cancer decrease tumor growth. UsiRNAs have demonstrated a lower potential for cytokine induction and provide resistance to nuclease degradation, two effects that are often prominent with standard siRNA. These attributes impart greater drug-like properties to UsiRNA. Most important, substitution with UNA at specific sites greatly increases the specificity for RNAi and improves their profile for therapeutic use. Substitution in the passenger strand can eliminate the ability of this strand to participate in RNAi and the potential for undesired actions on other targets or compete with the guide strand for the intracellular RNAi machinery. Substitution in the passenger strand can eliminate the ability of this strand to participate in RNAi and have undesired actions on other targets or compete with the guide strand for the intracellular RNAi machinery. Substitution of UNA within the guide strand can eliminate microRNA-like effects

that occur with standard siRNA, which often cannot be fully addressed by bioinformatic approaches or result in severe loss of activity if addressed with chemical modification of RNA. Overall, these data indicate that the appropriate substitution of UNA in place of RNA maintains the potent activity of our UsiRNAs, and could ultimately lead to effective protein down regulation with lower total doses and under conditions of greater specificity and safety.

Meroduplex constructs contain a nick or gap in the passenger strand (the non-targeting strand) of the siRNA, thus creating a three-stranded siRNA construct. Meroduplex constructs show improved safety properties over standard siRNA constructs (those with two contiguous strands) with minimal or no change in potency. While we consider the meroduplex an important advancement for RNAi, resources have been primarily focused on the UsiRNA construct.

Delivery. Our lead delivery platform utilizes liposomal delivery technology and incorporates a novel and proprietary molecule we call DiLA^2 (Di-Alkylated Amino Acid). Our scientists designed this molecule based on amino acid (e.g., peptide/protein-based) chemistry. A DiLA^2-containing liposome has several potential advantages over other liposomes, such as: (1) a structure that may enable safe and natural metabolism by the body; (2) the ability to adjust liposome size, shape, and circulation time, to influence bio-distribution; and (3) the ability to attach molecules that can influence other delivery-related attributes such as targeting and cellular uptake. Our siRNA formulations using different members of the DiLA^2 family have demonstrated safe and effective delivery in rodents with metabolic targets (e.g., ApoB) and in cancer models using both local and systemic routes of administration. Safe and effective delivery with DiLA^2-based formulations has also been achieved in non-human primates.

In addition, we are using peptides for both the formation of stable siRNA nanoparticles as well as targeting moieties for siRNA molecules. Ongoing developments include the use of peptide technology to "condense" siRNAs into compact and potent nanoparticles; screening of our proprietary phage display library for targeting peptides; and internal discovery and development of peptides and other compounds recognized as having targeting or cellular uptake properties. Our goal, in the use of such technologies, is to minimize the amount of final drug required to produce a therapeutic response by increasing the potency of the siRNA as well as directing more of the final drug product to the intended site of action.

Market for Bladder Cancer Therapeutics

Bladder cancer is the 4th most common cancer in men and 9th most common in women in the U.S., making this disease the 5th most common cancer overall in the U.S. Estimated new cases and deaths for 2009 are approximately 71,000 and 14,000, respectively. Bladder cancer has a similar incidence throughout the world, with estimates of 350,000 new patients each year. The majority of cases, approximately 70%, are classified as non-muscle invasive disease in which the tumor is confined to the cells (urothelium) and immediate supporting structures lining the interior of the bladder. Surgical resection of tumors is the primary therapy for non-muscle invasive bladder cancer and long-term survival rates are quite high compared to many other cancers. However, surgery is not curative with 50% to 70% of patients having recurrence of disease and 10% to 50% having progression to more severe disease. The combination of long-term survival but persistent monitoring for recurrence or progression renders bladder cancer one of the most expensive cancers on a cost per patient basis and fifth most expensive cancer in terms of total health care expenditures.

Market for HCC Therapeutics

Hepatocellular carcinoma ("HCC"), or liver cancer, is a leading cause of cancer-related death worldwide, and more than 500,000 new patients are diagnosed with the disease every year. HCC shows clear geographical distribution, with the highest incidence in Asia and Africa. In the United States, approximately 22,000 new cases and 18,000 deaths were projected for 2009 and the incidence in the U.S. is expected to increase. The one year survival rates for HCC patients are very poor, regardless of the geographical location.

Infection with Hepatitis B (Asia and Africa) or C (western countries and Japan) is a leading factor in the development of HCC; alcoholic liver cirrhosis and aflatoxin are also contributing factors. Potentially curative therapy involves surgical resection of the afflicted portion of the liver or transplantation; only about 40% or fewer of patients in the western countries are candidates for surgical intervention and far fewer are candidates in Asia. For those that undergo resection, 50% to 80% will have recurrent disease within five years, most of these within two years after resection.

RNAi Partnering and Licensing Agreements

Our business strategy is to enter into collaborations and strategic partnerships with pharmaceutical and biotechnology companies to: (1) generate revenue and non-dilutive financing; (2) gain access to technical resources; and (3) validate our drug discovery platform. In addition to the above relationships within the pharmaceutical industry, we are focused on keeping our drug discovery platform at the cutting-edge of RNAi-based therapeutics. To maintain our leadership in the field, we have entered into, and will continue to pursue, relationships with academia, research foundations and others to advance both our intellectual property estate and our drug discovery platform.

Roche. In February 2009, we entered into an agreement with F. Hoffmann-La Roche Inc., a New Jersey corporation, and F. Hoffmann-La Roche Ltd., a Swiss corporation (collectively, "Roche"), pursuant to which we granted to Roche a worldwide, non-exclusive license to a portion of our technology platform, for the development of RNAi-based therapeutics, in consideration of the payment of a one-time, non-refundable licensing fee of $5.0 million. We believe this agreement represents strong third-party validation of the siRNA construct aspect of our RNAi drug discovery platform.

Novartis. In March 2009, we entered into an agreement with Novartis Institutes for BioMedical Research, Inc. ("Novartis"), pursuant to which we granted to Novartis a worldwide, non-exclusive license to our DiLA^2-based siRNA delivery platform in consideration of the payment of a one-time, non-refundable fee of $7.25 million. We believe this agreement represents strong third-party validation of the siRNA delivery aspect of our RNAi drug discovery platform.

University of Michigan. In May 2008, we entered into an exclusive license agreement to IP from the University of Michigan covering cationic peptides for enhanced delivery of nucleic acids. These peptides have unique characteristics that we believe play an important role in improving the efficacy of delivery of RNAi-based therapeutics. We are currently using these peptides to create siRNA nanoparticles to enhance mRNA knockdown. Together with the DiLA^2 platform, these delivery peptides may improve the therapeutic potential of our drug candidates. We sublicensed this IP to Novartis on a nonexclusive basis in March 2009.

University of Helsinki. In June 2008, we entered into a collaboration agreement with Dr. Pirjo Laakkonen and the Biomedicum Helsinki. The goal of the work involves our patented phage display library, the Trp Cage library, for the identification of peptides to target particular tissues or organs for a given disease. In December 2009, we received a patent allowance in the US covering a targeting peptide for preferential delivery to lung tissues that was identified by MDRNA using the Trp Cage Library. We believe Trp Cage will identify additional peptides for evaluation in our delivery programs, and we will have a strong IP position for these peptides and their use.

Ribotask ApS. In June 2009, we announced the revision of the agreement established in October 2008, at which time we had acquired the intellectual property related to Unlocked Nucleobase Analogs (UNA) from Ribotask ApS, a privately held Danish company. The amended agreement eliminated all milestone and royalty payments and provided full financial and transactional control of our proprietary UNA technology. Our UsiRNA construct has been verified in multiple cell and *in vivo* models to be highly potent and efficacious for RNAi. Substitution of UNA within siRNA, creating the UsiRNA construct, has been shown to provide greater target specificity. We believe this proprietary construct provides unique advantages for RNAi-based therapeutics and is an essential part of our business strategy and ultimate success.

University of British Columbia. In November 2009, we expanded and extended a previous agreement established in 2008 with University of British Columbia/Vancouver Prostate Centre (VPC) in the area of bladder cancer. The VPC is a National Centre for Excellence for translational research and this agreement provides us access to cutting-edge bladder cancer models and evaluation techniques and interactions with world-renowned researchers and clinicians. Data derived from studies conducted under this agreement have already demonstrated the potency of UsiRNAs and DiLA^2-based delivery for inhibition of target mRNA and reduction in tumor growth. The focus of the expanded agreement will be the evaluation of additional critical targets in bladder cancer and the therapeutic impact on tumor biology and growth.

PROPRIETARY RIGHTS AND INTELLECTUAL PROPERTY

We rely primarily on patents and contractual obligations with employees and third parties to protect our proprietary rights. We have sought, and intend to continue to seek, appropriate patent protection for important and strategic components of our proprietary technologies by filing patent applications in the U.S. and certain foreign countries. There can be no assurance that any of our patents will guarantee protection or market exclusivity for our products and product candidates. We also use license agreements both to access external technologies and to convey certain intellectual property rights to others. Our financial success will be dependent in part on our ability to obtain commercially valuable patent claims and to protect our intellectual property rights and to operate without infringing upon the proprietary rights of others. As of March 15, 2010, we owned or controlled 7 issued or allowed patents, 37 pending U.S. patent applications, including provisional patent applications, to protect our RNAi proprietary technologies.

Our patents and patent applications are directed to compositions of matter, formulations, methods of use and/or methods of manufacturing, as appropriate. The patent positions of pharmaceutical and biotechnology companies, including ours, are generally uncertain and involve complex legal and factual questions. Our business could be negatively impacted by any of the following:

- the claims of any patents that are issued may not provide meaningful protection, may not provide a basis for commercially viable products or may not provide us with any competitive advantages;
- our patents may be challenged by third parties;
- others may have patents that relate to our technology or business that may prevent us from marketing our product candidates unless we are able to obtain a license to those patents;
- the pending patent applications to which we have rights may not result in issued patents; and
- we may not be successful in developing additional proprietary technologies that are patentable.

In addition, others may independently develop similar or alternative technologies, duplicate any of our technologies and, if patents are licensed or issued to us, design around the patented technologies licensed to or developed by us. Moreover, we could incur substantial costs in litigation if we have to defend ourselves in patent suits brought by third parties or if we initiate such suits.

EMPLOYEES

As of March 15, 2010, we had 46 full-time employees, of which approximately 30 are engaged in R&D, and the others are engaged in support functions including finance, administration, information technology, human resources, business development, corporate and investor relations and legal affairs. None of our employees is covered by a collective bargaining agreement.

COMPETITION

Competition in the drug industry is intense. Currently, the key biotechnology competitor in the RNAi field is Alnylam Pharmaceuticals, Inc. ("Alnylam"), with whom we compete directly in the area of proprietary siRNA constructs. Besides Alnylam, other smaller biotechnology companies in the space include Calando Pharmaceuticals,

Cequent Pharmaceuticals, Dicerna Pharmaceuticals, Inc., Novosom AG, Quark Pharmaceuticals, Inc., RXi Pharmaceuticals Corporation, Santaris Pharma A/S, Silence Therapeutics plc, Tacere Therapeutics, Inc., and Tekmira Pharmaceutical Corp. In addition to biotechnology companies, there are multiple large international pharmaceutical companies with internal RNAi R&D programs including, but not limited to, AstraZeneca, GlaxoSmithKline plc, Merck & Co., Novartis, Pfizer, Inc. and Roche. We will continue to look for opportunities for strategic relationships with companies and institutions in various areas of the RNAi field.

Universities and public and private research institutions are also potential competitors. While these organizations primarily have educational objectives, they may develop proprietary technologies related to the drug delivery field or secure protection that we may need for development of our technologies and products. We may attempt to license one or more of these proprietary technologies, but these licenses may not be available to us on acceptable terms, if at all.

Some of our competitors have substantially greater resources, research and development resources and experience, manufacturing capabilities, regulatory expertise, sales and marketing resources, and established collaborative arrangements with pharmaceutical companies. Our competitors, either alone or with their collaboration partners, may succeed in developing product candidates that are similar or preferable in effectiveness, safety, cost and ease of commercialization, and our competitors may obtain IP protection or commercialize competitive products sooner than we do.

LEGACY INTRANASAL TECHNOLOGIES AND THERAPEUTICS

Our efforts to divest and monetize our legacy nasal drug delivery programs and capabilities produced significant progress during 2009, including the following:

Exenatide. In January 2009 we amended our 2006 License Agreement with Amylin Pharmaceuticals, Inc. for the development of intranasal exenatide. The amended License Agreement provides for an accelerated $1.0 million milestone payment to us in January 2009 and an adjustment in the aggregate amount of milestone and royalty payments that could be due to us from $89 million to $80 million. Additionally, as a result of the amendment, we are no longer responsible for any further development of the nasal spray formulation of intranasal exenatide or its manufacture.

Calcitonin. In March 2009, we entered into an Asset Purchase Agreement with Par Pharmaceutical under which Par acquired our manufacturing facilities in Hauppauge, New York as well as our ANDA for generic calcitonin-salmon nasal spray. Under the terms of the Asset Purchase Agreement, we received upfront cash and will receive earn-out payments for five years on commercial sales of calcitonin.

GOVERNMENT REGULATION

Government authorities in the U.S. and other countries extensively regulate the research, development, testing, manufacture, labeling, promotion, advertising, distribution and marketing, among other things, of drugs and biologic products. All of our foreseeable product candidates are expected to be regulated as drug products.

In the U.S., the FDA regulates drug products under the Federal Food, Drug and Cosmetic Act (the "FDCA"), and other laws within the Public Health Service Act. Failure to comply with applicable U.S. requirements, both before and after approval, may subject us to administrative and judicial sanctions, such as a delay in approving or refusal by the FDA to approve pending applications, warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, and/or criminal prosecutions. Before our drug products are marketed they must be approved by the FDA. The steps required before a novel drug product is approved by the FDA include: (1) pre-clinical laboratory, animal, and formulation tests; (2) submission to the FDA of an Investigational New Drug Application ("IND") for human clinical testing, which must become effective before human clinical trials may begin; (3) adequate and well-controlled clinical trials to establish the safety and effectiveness of the product for each indication for which approval is sought;

(4) submission to the FDA of an New Drug Application ("NDA"); (5) satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the drug product is produced to assess compliance with cGMP; and FDA review and finally (6) approval of an NDA.

Pre-clinical tests include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies. The results of the pre-clinical tests, together with manufacturing information and analytical data, are submitted to the FDA as part of an IND, which must become effective before human clinical trials may begin. An IND will automatically become effective 30 days after receipt by the FDA, unless before that time the FDA raises concerns or questions, such as the conduct of the trials as outlined in the IND. In such a case, the IND sponsor and the FDA must resolve any outstanding FDA concerns or questions before clinical trials can proceed. There can be no assurance that submission of an IND will result in FDA authorization to commence clinical trials. Once an IND is in effect, each clinical trial to be conducted under the IND must be submitted to the FDA, which may or may not allow the trial to proceed.

Clinical trials involve the administration of the investigational drug to human subjects under the supervision of qualified physician-investigators and healthcare personnel. Clinical trials are typically conducted in three defined phases, but the phases may overlap or be combined. Phase 1 usually involves the initial administration of the investigational drug or biologic product to healthy individuals to evaluate its safety, dosage tolerance and pharmacodynamics. Phase 2 usually involves trials in a limited patient population, with the disease or condition for which the test material is being developed, to evaluate dosage tolerance and appropriate dosage; identify possible adverse side effects and safety risks; and preliminarily evaluate the effectiveness of the drug or biologic for specific indications. Phase 3 trials usually further evaluate effectiveness and test further for safety by administering the drug or biologic candidate in its final form in an expanded patient population. Our product development partners, the FDA, or we may suspend clinical trials at any time on various grounds, including any situation where we believe that patients are being exposed to an unacceptable health risk or are obtaining no medical benefit from the test material.

Assuming successful completion of the required clinical testing, the results of the pre-clinical trials and the clinical trials, together with other detailed information, including information on the manufacture and composition of the product, are submitted to the FDA in the form of an NDA requesting approval to market the product for one or more indications. Before approving an application, the FDA will usually inspect the facilities where the product is manufactured, and will not approve the product unless cGMP compliance is satisfactory. If the FDA determines the NDA is not acceptable, the FDA may outline the deficiencies in the NDA and often will request additional information. If the FDA approves the NDA, certain changes to the approved product, such as adding new indications, manufacturing changes or additional labeling claims are subject to further FDA review and approval. The testing and approval process requires substantial time, effort and financial resources, and we cannot be sure that any approval will be granted on a timely basis, if at all.

In addition, regardless of the type of approval, we and our partners are required to comply with a number of FDA requirements both before and after approval. For example, we are required to report certain adverse reactions and production problems, if any, to the FDA, and to comply with certain requirements concerning advertising and promotion for our products. In addition, quality control and manufacturing procedures must continue to conform to cGMP after approval, and the FDA periodically inspects manufacturing facilities to assess compliance with cGMP. Accordingly, manufacturers must continue to expend time, money and effort in all areas of regulatory compliance, including production and quality control to comply with cGMP. In addition, discovery of problems, such as safety problems, may result in changes in labeling or restrictions on a product manufacturer or NDA holder, including removal of the product from the market.

PRODUCT LIABILITY

To satisfy our agreement with Par, we are required to maintain product liability coverage at a $5 million level until February 2011 and for Merck & Co., we are required to maintain such coverage at a $20 million level until March 2011. To satisfy these requirements we have purchased extended reporting period coverage, in the

amount of $20 million per occurrence with a $20 million aggregate limitation, subject to a deductible of $25,000 per occurrence. This coverage is only for products tested, manufactured or marketed prior to December 1, 2008, and only for claims reported until March 1, 2011. Future product liability coverage requirements or limits will be addressed as needed.

AVAILABLE INFORMATION

We are a reporting company and file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy these reports, proxy statements and other information at the SEC's Public Reference Room at 100 F Street N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 or e-mail the SEC at publicinfo@sec.gov for more information on the operation of the public reference room. Our SEC filings are also available at the SEC's website at http://www.sec.gov. Our Internet address is http://www.mdrnainc.com. There we make available, free of charge, our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and any amendments to those reports, as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the SEC.

ITEM 1A. *Risk Factors.*

Risks Relating to being a Pre-Clinical Drug Development Company and Managing Growth

We have no history of profitability and there is a potential for fluctuation in operating results.

We have experienced significant operating losses since inception and have an accumulated deficit of $263.0 million at December 31, 2009. In the third quarter of 2008 we suspended all research and clinical development of our intranasal programs and incurred a restructuring charge to exit a facility which was used primarily for our intranasal activities. As of September 30, 2008, our accumulated deficit, which was primarily related to clinical development of our intranasal programs, was approximately $241.8 million. We currently have no revenues from product sales and will not have any such revenues unless and until a marketable product is successfully developed, receives regulatory approvals, and is successfully manufactured and distributed to the market. We expect to continue to experience losses for the foreseeable future. See "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Special Note Regarding Forward-Looking Statements".

We are developing products based on RNA interference technology. The process of developing such products requires significant research and development efforts, including basic research, pre-clinical and clinical development, and regulatory approval. These activities, together with our sales, marketing, general and administrative expenses, have resulted in operating losses in the past, and there can be no assurance that we can achieve profitability in the future. Our ability to achieve profitability depends on our ability, alone or with our collaborators, to develop our drug candidates, conduct pre-clinical development and clinical trials, obtain necessary regulatory approvals, and manufacture, distribute, market and sell our drug products. We cannot assure you that we will be successful at any of these activities or predict if or when we will ever become profitable.

We do not generate operating income and will require additional financing in the future. If additional capital is not available, we may have to curtail or cease operations.

Our business currently does not generate the cash that is necessary to finance our operations. We incurred net losses of approximately $52.4 million in 2007, $59.2 million in 2008, and $8.0 million in 2009. Subject to the success of our research and development programs and potential licensing or partnering transactions, we will need to raise significant additional capital to:

- fund research and development activities relating to our RNAi drug discovery platform and the development of our product candidates;
- obtain regulatory approval for our product candidates;
- protect our intellectual property;

- attract and retain highly-qualified scientists;
- respond effectively to competitive pressures; and
- acquire complementary businesses or technologies.

Our future capital needs depend on many factors, including:

- the scope, duration and expenditures associated with our research and development;
- continued scientific progress in these programs;
- the outcome of potential partnering or licensing transactions, if any;
- competing technological developments;
- our proprietary patent position, if any, in our products; and
- the regulatory approval process for our products.

We believe that our existing cash and cash equivalents should be sufficient to fund our operations well into the second quarter of 2010. We may seek to raise necessary funds through public or private equity offerings, debt financings or additional strategic alliances and licensing arrangements. We may not be able to obtain additional financing on terms favorable to us, if at all. General market conditions may make it very difficult for us to seek financing from the capital markets. We may be required to relinquish rights to our technologies or drug candidates, or grant licenses on terms that are not favorable to us, in order to raise additional funds through alliance, joint venture or licensing arrangements. If adequate funds are not available, we may have to delay, reduce or eliminate one or more of our research or development programs or reduce overall overhead expenses. These actions would likely reduce the market price of our common stock.

Our independent registered public accounting firm has expressed substantial doubt about our ability to continue as a going concern.

Our independent registered public accounting firm, in its audit opinion issued in connection with our consolidated balance sheets as of December 31, 2009 and 2008 and our consolidated statements of operations, stockholders' equity (deficit) and comprehensive loss and cash flows for the years ended December 31, 2009 and 2008, has expressed substantial doubt about our ability to continue as a going concern given our net losses and negative cash flows. The accompanying consolidated financial statements were prepared on the basis of a going concern, which contemplates the realization of assets and the satisfaction of liabilities and commitments in the normal course of business, and accordingly do not contain any adjustments which may result due to the outcome of this uncertainty.

If we lose our key personnel, or if we are unable to attract and retain additional personnel, then we may be unable to successfully develop our business.

If we are unable to retain one or more of our executive officers, including J. Michael French, our President and Chief Executive Officer, Peter S. Garcia, our Chief Financial Officer and Secretary, Dr. Barry Polisky, our Chief Scientific Officer, or any of our other key managers or key technical personnel, our business could be seriously harmed. We have entered into employment agreements with Messrs. French and Garcia and with Dr. Polisky. Whether or not a member of management has executed an employment agreement, there can be no assurance that we will be able to retain our key managers or key technical personnel or replace any of them if we lose their services for any reason. Although we make a significant effort and allocate substantial resources to recruit candidates, competition for competent managers and technical personnel is intense. Failure to retain our key personnel may compromise our ability to negotiate and enter into additional collaborative arrangements, delay our ongoing discovery research efforts, delay pre-clinical or clinical testing of our product candidates, delay the regulatory approval process or prevent us from successfully commercializing our product candidates. In addition, if we have to replace any of these individuals, we may not be able to replace knowledge that they have about our operations.

We may encounter difficulties managing our growth, which could adversely affect our business.

We currently have approximately 46 full-time-equivalent employees, and we expect that this number will increase to meet our strategic objectives. If our business grows, it may place a strain on us, our management and our resources. Our ability to effectively manage our operations, growth and various projects requires us to continue to improve our operational, financial and management controls, and our reporting systems and procedures and to attract and retain sufficient numbers of talented employees. We may not be able to successfully implement these tasks on a larger scale and, accordingly, we may not achieve our research, development and commercialization goals. If we fail to improve our operational, financial and management information systems, or fail to effectively monitor or manage our new and future employees or our growth, our business could suffer significantly.

If we make strategic acquisitions, we will incur a variety of costs and might never realize the anticipated benefits.

We have limited experience in independently identifying acquisition candidates and integrating the operations of acquisition candidates with our company. If appropriate opportunities become available, we might attempt to acquire approved products, additional drug candidates, technologies or businesses that we believe are a strategic fit with our business. If we pursue any transaction of that sort, the process of negotiating the acquisition and integrating an acquired product, drug candidate, technology or business might result in operating difficulties and expenditures and might require significant management attention that would otherwise be available for ongoing development of our business, whether or not any such transaction is ever consummated. Moreover, we might never realize the anticipated benefits of any acquisition. Future acquisitions could result in potentially dilutive issuances of equity securities, the incurrence of debt, contingent liabilities, or impairment expenses related to goodwill, and impairment or amortization expenses related to other intangible assets, which could harm our financial condition.

Failure of our internal control over financial reporting could harm our business and financial results.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process to provide reasonable assurance regarding the reliability of financial reporting for external purposes in accordance with accounting principles generally accepted in the United States. Internal control over financial reporting includes maintaining records that in reasonable detail accurately and fairly reflect our transactions; providing reasonable assurance that transactions are recorded as necessary for preparation of the financial statements; providing reasonable assurance that receipts and expenditures of our assets are made in accordance with management authorization; and providing reasonable assurance that unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements would be prevented or detected on a timely basis. Because of its inherent limitations, internal control over financial reporting is not intended to provide absolute assurance that a misstatement of our financial statements would be prevented or detected. Our growth and entry into new products, technologies and markets will place significant additional pressure on our system of internal control over financial reporting. Any failure to maintain an effective system of internal control over financial reporting could limit our ability to report our financial results accurately and timely or to detect and prevent fraud.

Risks Related to the Development and Regulatory Approval of our Drug Candidates

RNAi-based drug development is unproven and may never lead to marketable products.

Our future success depends on the successful development of products based on RNAi technology. Neither we nor any other company has received regulatory approval to market therapeutics utilizing siRNAs. The scientific discoveries that form the basis for our efforts to discover and develop new siRNA drugs are relatively new. The scientific evidence to support the feasibility of developing drugs based on these discoveries is both preliminary and limited. Skepticism as to the feasibility of developing RNAi therapeutics has been expressed in scientific literature.

Currently, no drugs based on RNAi technology have been approved or are in Phase 3 clinical trials. We currently have only limited data suggesting that we can introduce typical drug-like properties and characteristics into siRNAs, such as favorable distribution within the body or tissues or the ability to enter cells and exert their intended effects. In addition, RNA-based compounds may not demonstrate in patients the chemical and pharmacological properties ascribed to them in laboratory studies, and they may interact with human biological systems in unforeseen, ineffective or harmful ways. We may make significant expenditures trying to develop RNA-based technologies without success. As a result, we may never succeed in developing a marketable product. If we do not successfully develop and commercialize drugs based upon our RNA-based drug candidates, we may not become profitable and the value of our common stock will likely decline.

All of our programs are in pre-clinical studies or early stage research. If we are unable to develop and commercialize our early stage product candidates, our business will be adversely affected.

A key element of our strategy is to discover, develop and commercialize a portfolio of new products. We are seeking to do so through our internal research programs and intend to explore strategic collaborations for the development of new products. Whether or not any product candidates are ultimately identified, research programs to identify new disease targets and product candidates require substantial technical, financial and human resources. Our research programs may initially show promise in identifying potential product candidates, yet fail to yield a successful commercial product for many reasons, including the following:

- competitors may develop alternatives that render our product candidates obsolete;
- a product candidate may not have a sustainable intellectual property position in major markets;
- a product candidate may, after additional studies, be shown to have harmful side effects or other characteristics that indicate it is unlikely to be effective;
- a product candidate may not receive regulatory approval;
- a product candidate may not be capable of production in commercial quantities at an acceptable cost, or at all; or
- a product candidate may not be accepted by patients, the medical community or third-party payors.

Should our candidates ever enter clinical trials, clinical trials of our product candidates would be expensive and time-consuming, and the results of any of these trials would be uncertain.

Our research and development programs are at an early stage. Before obtaining regulatory approval for the sale of our product candidates, we must conduct, at our own expense, extensive pre-clinical tests and clinical trials to demonstrate the safety and efficacy in humans of our product candidates. Should our product candidates ever enter clinical trials, as to which there can be no assurances, clinical trials in patients are long, expensive and uncertain processes. The length of time generally varies substantially according to the type of drug, complexity of clinical trial design, regulatory compliance requirements, intended use of the drug candidate and rate of patient enrollment for the clinical trials.

A failure of one or more of our pre-clinical studies or clinical trials can occur at any stage of testing. We may experience numerous unforeseen events during, or as a result of, the pre-clinical testing and the clinical trial process that could delay or prevent our ability to receive regulatory approval or potentially commercialize our product candidates, including:

- regulators may not authorize us to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- our pre-clinical tests or clinical trials may produce negative or inconclusive results, and we may decide, or a regulator may require us, to conduct additional pre-clinical testing or clinical trials, or we may abandon projects that we previously expected to be promising;

- enrollment in our clinical trials may be slower than we anticipate or participants may drop out of our clinical trials at a higher rate than we anticipate, resulting in significant delays;
- our third party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner;
- our products candidates may have very different chemical and pharmacological properties in humans than in laboratory testing and may interact with human biological systems in unforeseen, ineffective or harmful ways;
- we might have to suspend or terminate our clinical trials if the participants are being exposed to unacceptable health risks;
- regulators, including the FDA, may require that we hold, suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements;
- the cost of our clinical trials may be greater than we anticipate;
- the supply or quality of our drug candidates or other materials necessary to conduct our clinical trials may be insufficient or inadequate; and
- effects of product candidates may not have the desired effects or may include undesirable side effects or the product candidates may have other unexpected characteristics.

Further, even if the results of our pre-clinical studies or clinical trials are initially positive, it is possible that we will obtain different results in the later stages of drug development or that results seen in clinical trials will not continue with longer term treatment. Drugs in late stages of clinical development may fail to show the desired safety and efficacy traits despite having progressed through initial clinical testing. For example, positive results in early Phase 1 or Phase 2 clinical trials may not be repeated in larger Phase 2 or Phase 3 clinical trials. All of our potential drug candidates are prone to the risks of failure inherent in drug development. The clinical trials of any or all of our drugs or drug candidates could be unsuccessful, which would prevent us from commercializing these drugs. The FDA conducts its own independent analysis of some or all of the pre-clinical and clinical trial data submitted in a regulatory filing and often comes to different and potentially more negative conclusions than the analysis performed by the drug sponsor. Our failure to develop safe, commercially viable drugs approved by the FDA would substantially impair our ability to generate revenues and sustain our operations and would materially harm our business and adversely affect our stock price. In addition, significant delays in pre-clinical studies and clinical trials will impede our ability to seek regulatory approvals, commercialize our drug candidates and generate revenue, as well as substantially increase our development costs.

Even if we obtain regulatory approvals, our marketed drugs will be subject to ongoing regulatory review. If we fail to comply with continuing U.S. and foreign regulations, we could lose our approvals to market drugs and our business would be materially adversely affected.

Following any initial FDA or foreign regulatory approval of any drugs we may develop, we will also be subject to continuing regulatory review, including the review of adverse drug experiences and clinical results that are reported after our drug products are made available to patients. This would include results from any post marketing tests or vigilance required as a condition of approval. The manufacturer and manufacturing facilities we use to make any of our drug candidates will also be subject to periodic review and inspection by regulatory authorities, including the FDA. The discovery of any new or previously unknown problems with the product, manufacturer or facility may result in restrictions on the drug or manufacturer or facility, including withdrawal of the drug from the market. Our product promotion and advertising also will be subject to regulatory requirements and continuing regulatory review. If we fail to comply with applicable continuing regulatory requirements, we may be subject to fines, suspension or withdrawal of regulatory approval, product recalls and seizures, operating restrictions and other adverse consequences.

We are subject to extensive U.S. and foreign government regulation, including the requirement of approval before our products may be manufactured or marketed.

We, our future collaboration partners, and the drug product candidates developed by us or in collaboration with partners are subject to extensive regulation by governmental authorities in the U.S. and other countries. Failure to comply with applicable requirements could result in, among other things, any of the following actions: warning letters, fines and other civil penalties, unanticipated expenditures, delays in approving or refusal to approve a product candidate, product recall or seizure, interruption of manufacturing or clinical trials, operating restrictions, injunctions and criminal prosecution.

Our product candidates cannot be marketed in the U.S. without FDA approval or clearance, and they cannot be marketed in foreign countries without applicable regulatory approval. Neither the FDA nor any foreign regulatory authority has approved any of our product candidates. Our product candidates are in pre-clinical development, and will have to be approved by the FDA or applicable foreign regulatory authorities before they can be marketed in the U.S. or abroad. Obtaining regulatory approval requires substantial time, effort, and financial resources, and may be subject to both expected and unforeseen delays, including, without limitation, citizen's petitions or other filings with the FDA, and there can be no assurance that any approval will be granted on a timely basis, if at all, or that delays will be resolved favorably or in a timely manner. If our product candidates are not approved in a timely fashion, or are not approved at all, our business and financial condition may be adversely affected. We, our future collaboration partners or the FDA may suspend or terminate human clinical trials at any time on various grounds, including a finding that the patients are being exposed to an unacceptable health risk.

In addition, both before and after regulatory approval, we, our future collaboration partners and our product candidates are subject to numerous requirements by the FDA and foreign regulatory authorities covering, among other things, testing, manufacturing, quality control, labeling, advertising, promotion, distribution and export. These requirements may change and additional government regulations may be promulgated that could affect us, our collaboration partners or our product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the U.S. or abroad. There can be no assurance that we will not be required to incur significant costs to comply with such laws and regulations in the future or that such laws or regulations will not have a material adverse effect upon our business.

We use hazardous chemicals and biological materials in our business. Any disputes relating to improper use, handling, storage or disposal of these materials could be time-consuming and costly.

Our research and development operations involve the use of hazardous and biological, potentially infectious, materials. We are subject to the risk of accidental contamination or discharge or any resultant injury from these materials. Federal, state and local laws and regulations govern the use, manufacture, storage, handling and disposal of these materials and specific waste products. We could be subject to damages, fines or penalties in the event of an improper or unauthorized release of, or exposure of individuals to, these hazardous materials, and our liability could be substantial. The costs of complying with these current and future environmental laws and regulations may be significant, thereby impairing our business.

We are also subject to numerous environmental, health and workplace safety laws and regulations, including those governing laboratory procedures, exposure to blood-borne pathogens and the handling of biohazardous materials. We maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of these materials. The limits of our workers' compensation insurance are mandated by state law, and our workers' compensation liability is capped at these state-mandated limits. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials. Additional federal, state and local laws and regulations affecting our operations may be adopted in the future. We may incur substantial costs to comply with, and substantial fines or penalties if we violate, any of these laws or regulations.

Failure to comply with foreign regulatory requirements governing human clinical trials and marketing approval for drugs could prevent us from selling our drug candidates in foreign markets, which may adversely affect our operating results and financial condition.

The requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement for marketing our drug candidates outside the U.S. vary greatly from country to country. We have limited experience in obtaining foreign regulatory approvals. The time required to obtain approvals outside the U.S. may differ from that required to obtain FDA approval. We may not obtain foreign regulatory approvals on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other countries or by the FDA. Failure to comply with these regulatory requirements or obtain required approvals could impair our ability to develop foreign markets for our drug candidates and may have a material adverse effect on our financial condition or results of operations.

Risks Related to our Dependence on Third Parties

We may become dependent on our collaborative arrangements with third parties for a substantial portion of our revenue, and our development and commercialization activities may be delayed or reduced if we fail to initiate, negotiate or maintain successful collaborative arrangements.

We may become dependent on possible future collaborators to develop and commercialize many of our product candidates and to provide the regulatory compliance, sales, marketing and distribution capabilities required for the success of our business. If we fail to secure or maintain successful collaborative arrangements, our development and commercialization activities will be delayed or reduced and our revenues could be materially and adversely impacted.

Over the next several years, we may depend on these types of collaboration partnerships for a significant portion of our revenue. The expected future milestone payments and cost reimbursements from collaboration agreements could provide an important source of financing for our research and development programs, thereby facilitating the application of our technology to the development and commercialization of our products. These collaborative agreements might be terminated either by us or by our partners upon the satisfaction of certain notice requirements. Our partners may not be precluded from independently pursuing competing products and drug delivery approaches or technologies. Even if our partners continue their contributions to our collaborative arrangements, they may nevertheless determine not to actively pursue the development or commercialization of any resulting products. Our partners may fail to perform their obligations under the collaborative arrangements or may be slow in performing their obligations. In addition, our partners may experience financial difficulties at any time that could prevent them from having available funds to contribute to these collaborations. If our collaboration partners fail to conduct their commercialization, regulatory compliance, sales and marketing or distribution activities successfully and in a timely manner, we will earn little or no revenue from those products and we will not be able to achieve our objectives or build a sustainable or profitable business.

An interruption in the supply of our raw and bulk materials needed for our product candidates could cause our product development to be slowed or stopped.

We currently obtain supplies of critical raw and bulk materials used in our research and development efforts from several suppliers. However, we do not have long-term contracts with any of these suppliers. While our existing arrangements supply sufficient quantities of raw and bulk materials needed to accomplish the current preclinical and clinical development of our product candidates, there can be no assurance that we would have the capability to manufacture sufficient quantities of our product candidates to meet our needs if our suppliers are unable or unwilling to supply such materials. Any delay or disruption in the availability of raw or bulk materials could slow or stop research and development of the relevant product.

We will rely on third parties to conduct our clinical trials, and those third parties may not perform satisfactorily, including failing to meet established deadlines for the completion of such clinical trials.

We anticipate that we will be dependent on contract research organizations, third-party vendors and investigators for pre-clinical testing and clinical trials related to our drug discovery and development efforts. These parties are not our employees and we cannot control the amount or timing of resources that they devote to our programs. If they fail to devote sufficient time and resources to our drug development programs or if their performance is substandard, it will delay the development and commercialization of our product candidates. The parties with which we contract for execution of our clinical trials play a significant role in the conduct of the trials and the subsequent collection and analysis of data. Their failure to meet their obligations could adversely affect clinical development of our product candidates. Moreover, these parties also may have relationships with other commercial entities, some of which may compete with us. If they assist our competitors, it could harm our competitive position.

If we were to lose our relationship with any one or more of these parties, we could experience a significant delay in both identifying another comparable provider and then contracting for its services. We may then be unable to retain an alternative provider on reasonable terms, if at all. Even if we locate an alternative provider, is it likely that this provider may need additional time to respond to our needs and may not provide the same type or level of service as the original provider. In addition, any provider that we retain will be subject to Good Laboratory Practices, or cGLP, and similar foreign standards and we do not have control over compliance with these regulations by these providers. Consequently, if these practices and standards are not adhered to by these providers, the development and commercialization of our product candidates could be delayed.

We have limited experience in marketing or selling our products, and we may need to rely on marketing partners or contract sales companies.

Even if we are able to develop our products and obtain necessary regulatory approvals, we have limited experience or capabilities in marketing or commercializing our products. We currently have no sales, marketing and distribution infrastructure. Accordingly, we will be dependent on our ability to build this capability ourselves or to find collaborative marketing partners or contract sales companies for commercial sale of our internally-developed products. Even if we find a potential marketing partner, we may not be able to negotiate a licensing contract on favorable terms to justify our investment or achieve adequate revenues.

Risks Related to our Intellectual Property and Other Legal Matters

If we are unable to adequately protect our proprietary technology from legal challenges, infringement or alternative technologies, our competitive position may be hurt and our operating results may be negatively impacted.

We specialize in the development and delivery of therapeutics based on RNA-based technologies, and rely on the issuance of patents, both in the U.S. and internationally, for protection against competitive technologies. Although we believe we exercise the necessary due diligence in our patent filings, our proprietary position is not established until the appropriate regulatory authorities actually issue a patent, which may take several years from initial filing or may never occur.

Moreover, even the established patent positions of pharmaceutical companies are generally uncertain and involve complex legal and factual issues. Although we believe our issued patents are valid, third parties may infringe our patents or may initiate proceedings challenging the validity or enforceability of our patents. The issuance of a patent is not conclusive as to its claim scope, validity or enforceability. Challenges raised in patent infringement litigation we initiate or in proceedings initiated by third parties may result in determinations that our patents have not been infringed or that they are invalid, unenforceable or otherwise subject to limitations. In

the event of any such determinations, third parties may be able to use the discoveries or technologies claimed in our patents without paying us licensing fees or royalties, which could significantly diminish the value of these discoveries or technologies. As a result of such determinations, we may be enjoined from pursuing research, development or commercialization of potential products or may be required to obtain licenses, if available, to the third party patents or to develop or obtain alternative technology. Responding to challenges initiated by third parties may require significant expenditures and divert the attention of our management and key personnel from other business concerns.

Furthermore, it is possible others will infringe or otherwise circumvent our issued patents and that we will be unable to fund the cost of litigation against them or that we would elect not to pursue litigation. In addition, enforcing our patents against third parties may require significant expenditures regardless of the outcome of such efforts. We also cannot assure you that others have not filed patent applications for technology covered by our pending applications or that we were the first to invent the technology. There may also exist third party patents or patent applications relevant to our potential products that may block or compete with the technologies covered by our patent applications and third parties may independently develop IP similar to our patented IP, which could result in, among other things, interference proceedings in the U.S. Patent and Trademark Office to determine priority of invention.

In addition, we may not be able to protect our established and pending patent positions from competitive technologies, which may provide more effective therapeutic benefit to patients and which may therefore make our products, technology and proprietary position obsolete.

We also rely on copyright and trademark protection, trade secrets, know-how, continuing technological innovation and licensing opportunities. In an effort to maintain the confidentiality and ownership of our trade secrets and proprietary information, we require our employees, consultants, advisors and others to whom we disclose confidential information to execute confidentiality and proprietary information agreements. However, it is possible that these agreements may be breached, invalidated or rendered unenforceable, and if so, there may not be an adequate corrective remedy available. Furthermore, like many companies in our industry, we may from time to time hire scientific personnel formerly employed by other companies involved in one or more areas similar to the activities we conduct. In some situations, our confidentiality and proprietary information agreements may conflict with, or be subject to, the rights of third parties with whom our employees, consultants or advisors have prior employment or consulting relationships. Although we require our employees and consultants to maintain the confidentiality of all confidential information of previous employers, we or these individuals may be subject to allegations of trade secret misappropriation or other similar claims as a result of their prior affiliations. Finally, others may independently develop substantially equivalent proprietary information and techniques, or otherwise gain access to our trade secrets. Our failure to protect our proprietary information and techniques may inhibit or limit our ability to exclude certain competitors from the market and execute our business strategies.

If we are unable to adequately protect our proprietary intellectual property from legal challenges, infringement or alternative technologies, we will not be able to compete effectively in the drug discovery and development business.

Because intellectual property rights are of limited duration, expiration of intellectual property rights and licenses will negatively impact our operating results.

Intellectual property rights, such as patents and license agreements based on those patents, generally are of limited duration. Our operating results depend on our patents and IP licenses. Therefore, the expiration or other loss of rights associated with IP and IP licenses can negatively impact our business.

Our patent applications may be inadequate in terms of priority, scope or commercial value.

We apply for patents covering our discoveries and technologies as we deem appropriate. However, we may fail to apply for patents on important discoveries or technologies in a timely fashion or at all. Also, our pending patent applications may not result in the issuance of any patents. These applications may not be sufficient to meet the statutory requirements for patentability, and therefore we may be unable to obtain enforceable patents covering the related discoveries or technologies we may want to commercialize. In addition, because patent applications are maintained in secrecy for approximately 18 months after filing, other parties may have filed patent applications relating to inventions before our applications covering the same or similar inventions. In addition, foreign patent applications are often published initially in local languages, and until an English language translation is available it can be impossible to determine the significance of a third party invention. Any patent applications filed by third parties may prevail over our patent applications or may result in patents that issue alongside patents issued to us, leading to uncertainty over the scope of the patents or the freedom to practice the claimed inventions.

Although we have in-licensed a number of issued patents, the discoveries or technologies covered by these patents may not have any therapeutic or commercial value. Also, issued patents may not provide commercially meaningful protection against competitors. Other parties may be able to design around our issued patents or independently develop products having effects similar or identical to our patented product candidates. In addition, the scope of our patents is subject to considerable uncertainty and competitors or other parties may obtain similar patents of uncertain scope.

We are dependent on technologies we license, and if we lose the right to license such technologies or we fail to license new technologies in the future, our ability to develop new products would be harmed.

We currently are dependent on licenses from third parties for our key technologies relating to fundamental RNAi technologies. Our current licenses impose, and any future licenses we enter are likely to impose, various development, funding, royalty, diligence, sublicensing, insurance and other obligations on us. If our license with respect to any of these technologies is terminated for any reason, the development of the products contemplated by the licenses would be delayed, or suspended altogether, while we seek to license similar technology or develop new non-infringing technology. The costs of obtaining new licenses are high, and many patents in the RNAi field have already been exclusively licensed to third parties, including our competitors. If any of our existing licenses is terminated, the development of the products contemplated by the licenses could be delayed or terminated and we may not be able to negotiate additional licenses on acceptable terms, if at all, which would have a material adverse effect on our business.

We may be required to defend lawsuits or pay damages for product liability claims.

Our business inherently exposes us to potential product liability claims. We face substantial product liability exposure in human clinical trials that we may initiate and for products that we sell, or manufacture for others to sell, after regulatory approval. The risk exists even with respect to those drugs that are approved by regulatory agencies for commercial distribution and sale and are manufactured in facilities licensed and regulated by regulatory agencies. Any product liability claims, regardless of their merits, could be costly, divert management's attention and adversely affect our reputation and the demand for our products.

Risks Related to the Commercialization of our Product Candidates

Our product development efforts may not result in commercial products.

Our future results of operations depend, to a significant degree, upon our and any future collaboration partners' ability to successfully develop and commercialize pharmaceutical products. The development and commercialization process, particularly with respect to innovative products, is both time consuming and costly

and involves a high degree of business risk. Successful product development in the pharmaceutical industry is highly uncertain, and very few research and development projects result in a commercial product. Product candidates that appear promising in the early phases of development, such as in preclinical testing or in early human clinical trials may fail to reach the market for a number of reasons, such as:

- a product candidate may not perform as expected in later or broader trials in humans and limit marketability of such product candidate;
- necessary regulatory approvals may not be obtained in a timely manner, if at all;
- a product candidate may not be able to be successfully and profitably produced and marketed;
- third parties may have proprietary rights to a product candidate, and do not allow sale on reasonable terms; or
- a product candidate may not be financially successful because of existing therapeutics that offer equivalent or better treatments.

None of our product candidates utilizing our technologies have commenced human clinical studies or have been approved by the FDA or any foreign regulatory authority. There can be no assurance that any of our product candidates currently in research or development, or that may enter research or development, will ever be successfully commercialized, and delays in any part of the process or our inability to obtain regulatory approval could adversely affect our operating results by restricting introduction of new products by us or any future collaboration partners.

Even if we are successful in developing and commercializing a product candidate, it is possible that the commercial opportunity for RNA-based therapeutics will be limited.

The product candidates that we are developing are based on new technologies and therapeutic approaches, none of which have yet been brought to market. Accordingly, while we believe there will be a commercial market for RNA-based therapeutics utilizing our technologies, there can be no assurance that this will be the case, in particular given the novelty of the field. Many factors may affect the market acceptance and commercial success of any potential products, including:

- establishment and demonstration of the effectiveness and safety of the drugs;
- timing of market entry as compared to competitive products;
- the benefits of our drugs relative to their prices and the comparative price of competing products and treatments;
- marketing and distribution support of our products;
- the safety, efficacy and ease of administration of our product candidates;
- the willingness of patients to accept, and the willingness of medical professionals to prescribe, relatively new therapies; and
- any restrictions on labeled indications.

Risks Related to our Industry

Any drugs we develop may become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives, which could have a material adverse effect on our business.

The success of our products will depend upon the extent to which third-party payors, such as Medicare, Medicaid and other domestic and international government programs, private insurance plans and managed care programs, provide reimbursement for the use of such products. Most third-party payors may deny reimbursement

if they determine that a medical product was not used in accordance with cost-effective treatment methods, as determined by the third-party payor, or was used for an unapproved indication.

Third-party payors also may refuse to reimburse for experimental procedures and devices. Furthermore, because our programs are in the early stages of development, we are unable at this time to determine their cost-effectiveness and the level or method of reimbursement. Increasingly, the third-party payors who reimburse patients are requiring that drug companies provide them with predetermined discounts from list prices, and are challenging the prices charged for medical products. If the price we are able to charge for any products we develop is inadequate in light of our development and other costs, our profitability could be adversely effected.

We currently expect that any drugs we develop may need to be administered under the supervision of a physician. Under currently applicable law, drugs that are not usually self-administered may be eligible for coverage by the Medicare program if:

- they are "incidental" to a physician's services;
- they are "reasonable and necessary" for the diagnosis or treatment of the illness or injury for which they are administered according to accepted standard of medical practice;
- they are not excluded as immunizations; and
- they have been approved by the FDA.

There may be significant delays in obtaining insurance coverage for newly-approved drugs, and insurance coverage may be more limited than the purpose for which the drug is approved by the FDA. Moreover, eligibility for insurance coverage does not imply that any drug will be reimbursed in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution. Interim payments for new drugs, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement may be based on payments for other services and may reflect budgetary constraints or imperfections in Medicare data. Net prices for drugs may be reduced by mandatory discounts or rebates required by government health care programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement rates. Our inability to promptly obtain coverage and profitable reimbursement rates from both government-funded and private payors for new drugs that we develop could have a material adverse effect on our operating results, our ability to raise capital needed to develop products, and our overall financial condition.

Additionally, third-party payors are increasingly attempting to contain health care costs by limiting both coverage and the level of reimbursement for medical products and services. A number of legislative and regulatory proposals to change the healthcare system in the United States and other major healthcare markets have been proposed in recent years. These proposals have included prescription drug benefit legislation recently enacted in the United States and healthcare reform legislation enacted by certain states. Levels of reimbursement may decrease in the future, and future legislation, regulation or reimbursement policies of third-party payors may adversely affect the demand for and price levels of our products. If our customers are not reimbursed for our products, they may reduce or discontinue purchases of our products, which could have a material adverse effect on our business, financial condition and results of operations.

Some states and localities have established drug importation programs for their citizens, and federal drug import legislation has been introduced in Congress. The Medicare Prescription Drug Plan legislation, which became law in December 2003, required the Secretary of Health and Human Services to promulgate regulations for drug reimportation from Canada into the United States under some circumstances, including when the drugs are sold at a lower price than in the United States. The Secretary, however, retained the discretion not to implement a drug reimportation plan if he finds that the benefits do not outweigh the costs, and has so far declined to approve a reimportation plan. Proponents of drug reimportation may attempt to pass legislation that

would directly allow reimportation under certain circumstances. Legislation or regulations allowing the reimportation of drugs, if enacted, could decrease the price we receive for any products that we may develop and adversely affect our future revenues and prospects for profitability.

We may be unable to compete successfully against our current and future competitors.

A number of medical institutions and pharmaceutical companies are seeking to develop therapeutic products. Companies working in this area include: Alnylam Pharmaceuticals, Calando Pharmaceuticals, Cequent Pharmaceuticals, Dicerna Pharmaceuticals, Inc., Novosom AG, Quark Pharmaceuticals, Inc., RXi Pharmaceuticals Corporation, Santaris Pharma A/S, Silence Therapeutics plc, Tacere Therapeutics, Inc. and Tekmira Pharmaceutical Corp. as well as a number of the multinational pharmaceutical companies. In addition, a number of companies are developing therapeutics for the same diseases we are targeting using technologies other than RNA interference. Many of these competitors have substantially greater research and development capabilities and financial, scientific, technical, manufacturing, marketing, distribution, and other resources than us, and we may not be able to successfully compete with them. In addition, even if we are successful in developing our product candidates, in order to compete successfully we may need to be first to market or to demonstrate that our RNAi based products are superior to therapies based on different technologies. If we are not first to market or are unable to demonstrate such superiority, any products for which we are able to obtain approval may not be successful.

Risks Related to our Common Stock

The trading price of our common stock has been volatile, and investors in our common stock may experience substantial losses.

The trading price of our common stock has been volatile and may become volatile again in the future. The trading price of our common stock could decline or fluctuate in response to a variety of factors, including:

- our failure to meet the performance estimates of securities analysts;
- changes in buy/sell recommendations by securities analysts;
- negative results from our clinical and pre-clinical trials;
- fluctuation in our quarterly operating results;
- substantial sales of our common stock;
- general stock market conditions; or
- other economic or external factors.

The stock markets in general, and the markets for pharmaceutical stocks in particular, have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the trading price of our common stock.

The Nasdaq Global Market imposes listing standards on our common stock that we may not be able to fulfill, thereby leading to a possible delisting of our common stock.

As a listed Nasdaq Global Market company, we are subject to rules covering, among other things, certain major corporate transactions, the composition of our Board of Directors and committees thereof, minimum bid price of our common stock and minimum stockholders equity. The failure to meet these or other Nasdaq Global Market requirements may result in the de-listing of our common stock from the Nasdaq Global Market, which could adversely affect the liquidity and market price thereof.

Various restrictions in our charter documents and Delaware law could prevent or delay a change in control of us that is not supported by our board of directors.

We are subject to a number of provisions in our charter documents and Delaware law that may discourage, delay or prevent a merger, acquisition or change of control that a stockholder may consider favorable. These anti-takeover provisions include:

- advance notice procedures for nominations of candidates for election as directors and for stockholder proposals to be considered at stockholders' meetings; and
- the Delaware anti-takeover statute contained in Section 203 of the Delaware General Corporation Law.

Section 203 of the Delaware General Corporation Law prohibits a merger, consolidation, asset sale or other similar business combination between us and any stockholder of 15% or more of our voting stock for a period of three years after the stockholder acquires 15% or more of our voting stock, unless (1) the transaction is approved by our board of directors before the stockholder acquires 15% or more of our voting stock, (2) upon completing the transaction the stockholder owns at least 85% of our voting stock outstanding at the commencement of the transaction, or (3) the transaction is approved by our board of directors and the holders of 66⅔% of our voting stock, excluding shares of our voting stock owned by the stockholder.

We have never paid dividends on our common stock and we do not anticipate paying cash dividends in the foreseeable future.

We have not paid any dividends on our common stock to date, and we currently intend to retain our future earnings, if any, to fund the development and growth of our business. In addition, the terms of any future debt or credit facility may preclude us from paying any dividends.

The anti-takeover provisions of our stockholder rights plan may entrench management, may delay or prevent beneficial takeover bids by third parties and may prevent or frustrate any stockholder attempt to replace or remove the current management even if the stockholders consider it beneficial to do so.

We have a stockholder rights plan designed to protect our stockholders from coercive or unfair takeover tactics. Under the plan, we declared a dividend of one preferred stock purchase right for each share of common stock outstanding on March 17, 2000. Each preferred stock purchase right entitles the holder to purchase from us 1/1000th of a share of Series A Junior Participating Preferred Stock for $50.00. In the event any acquiring entity or group accumulates or initiates a tender offer to purchase 15% or more of our common stock, then each holder of a preferred stock purchase right, other than the acquiring entity and its affiliates, will have the right to receive, upon exercise of the preferred stock purchase right, shares of our common stock or shares in the acquiring entity having a value equal to two times the exercise price of the preferred stock purchase right. In March 2010 we amended the Stockholder Rights Agreement to extend the expiration date of the preferred share purchase rights from March 17, 2010 to March 17, 2013, subject to shareholder approval. Assuming shareholder approval for the extension of the expiration date is obtained, the preferred stock purchase rights will expire on March 17, 2013, unless we extend the expiration date or in certain limited circumstances, we redeem or exchange such rights prior to such date.

The intent of the stockholder rights plan is to protect our stockholders' interests by encouraging anyone seeking control of our company to negotiate with our board of directors. However, our stockholder rights plan could make it more difficult for a third party to acquire us without the consent of our board of directors, even if doing so may be beneficial to our stockholders. This plan may discourage, delay or prevent a tender offer or takeover attempt, including offers or attempts that could result in a premium over the market price of our common stock. This plan could reduce the price that investors might be willing to pay for shares of our common stock in the future. Furthermore, the anti-takeover provisions of our stockholder rights plan may entrench management and make it more difficult for stockholders to replace management even if the stockholders consider it beneficial to do so.

A significant number of shares of our common stock are subject to options and warrants, and we expect to sell additional shares of our common stock in the future. Sales of these shares will dilute the interests of other security holders and may depress the price of our common stock.

As of March 15, 2010, there were 48,777,498 shares of common stock outstanding. As of March 15, 2010, there were vested outstanding options to purchase 5,038,694 shares of common stock, unvested outstanding options to purchase 3,356,037 shares of common stock and outstanding warrants to purchase 12,548,472 shares of common stock. At March 15 2010, there were 411,329 shares of common stock available for future issuance under our stock compensation plans. In addition, we may issue additional common stock and warrants from time to time to finance our operations. We may also issue additional shares to fund potential acquisitions or in connection with additional stock options or restricted stock granted to our employees, officers, directors and consultants under our equity compensation plans. The issuance, perception that issuance may occur, or exercise of warrants or options will have a dilutive impact on other stockholders and could have a material negative effect on the market price of our common stock.

ITEM 1B. ***Unresolved Staff Comments.***

None.

ITEM 2. ***Properties.***

The following is a summary of our properties and related lease obligations. We do not own any real property. We believe that these facilities are sufficient to support our research and development, operational, manufacturing and administrative needs under our current operating plan.

3830 Monte Villa Parkway, Bothell, Washington. We lease approximately 63,200 square feet of research and development and office space in Bothell, Washington. This lease is scheduled to expire in February 2016 and has a five-year renewal option.

3450 Monte Villa Parkway, Bothell, Washington. We also lease approximately 32,000 square feet of research and development, and office space in Bothell, Washington. This lease is scheduled to expire in January 2016. We exited this facility in September 2008. We have no cash rent obligations under the 3450 Monte Villa lease until July 2010.

ITEM 3. ***Legal Proceedings.***

We are subject to various legal proceedings and claims that arise in the ordinary course of business. Our management currently believes that resolution of such legal matters will not have a material adverse impact on our financial position, results of operations or cash flows.

ITEM 4. ***Reserved.***

PART II

ITEM 5. ***Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.***

Market Information

Our common stock is listed on the Nasdaq Global Market under the symbol "MRNA." The following table sets forth, for each of the quarterly periods indicated, the range of high and low sales prices of our common stock, as reported on the Nasdaq Global Market. These prices do not include retail markups, markdowns or commissions.

Quarter	High	Low
2008:		
First Quarter	$3.94	$1.91
Second Quarter	2.85	1.11
Third Quarter	1.25	0.38
Fourth Quarter	0.85	0.14
2009:		
First Quarter	$0.64	$0.21
Second Quarter	3.55	0.64
Third Quarter	1.93	1.21
Fourth Quarter	1.83	0.77

On March 15, 2010 the closing price of our common stock reported on the Nasdaq Global Market was $1.05 per share.

Holders

As of March 15, 2010, there were approximately 17,000 beneficial holders of record of our common stock.

Dividends

Payment of dividends and the amount of dividends depend on matters deemed relevant by our Board, such as our results of operations, financial condition, cash requirements, future prospects and any limitations imposed by law, credit agreements and debt securities. To date, we have not paid any cash dividends or stock dividends on our common stock. In addition, we currently anticipate that we will not pay any cash dividends in the foreseeable future and intend to use retained earnings, if any, for working capital purposes.

Unregistered Sales of Equity Securities

None.

ITEM 6. Selected Financial Data.

Not applicable.

ITEM 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations.*

Overview

Statements contained herein that are not historical fact may be forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, that are subject to a variety of risks and uncertainties. There are a number of important factors that could cause actual results to differ materially from those projected or suggested in any forward-looking statement made by us. These factors include, but are not limited to: (i) our ability to obtain additional funding; (ii) our ability to attract and/or maintain manufacturing, research, development and commercialization partners; (iii) the ability of our company and/or a partner to successfully complete product research and development, including pre-clinical and clinical studies and commercialization; (iv) the ability of our company and/or a partner to obtain required governmental approvals, including product and patent approvals; and (v) the ability of our company and/or a partner to develop and commercialize products that can compete favorably with those of competitors. In addition, significant fluctuations in annual or quarterly results may occur as a result of the timing of milestone payments, the recognition of revenue from milestone payments and other sources not related to product sales to third parties, and the timing of costs and expenses related to our research and development programs. Additional factors that would cause actual results to differ materially from those projected or suggested in any forward-looking statements are contained in our filings with the SEC, including those factors discussed under the caption "Forward-Looking Statements" in this Annual Report, which we urge investors to consider. We undertake no obligation to publicly release revisions in such forward-looking statements that may be made to reflect events or circumstances after the date hereof or to reflect the occurrences of unanticipated events or circumstances, except as otherwise required by securities and other applicable laws.

The following management's discussion and analysis is intended to provide information necessary to understand our audited consolidated financial statements and highlight certain other information which, in the opinion of management, will enhance a reader's understanding of our financial condition, changes in financial condition and results of operations. In particular, the discussion is intended to provide an analysis of significant trends and material changes in our financial position and operating results of our business during the year ended December 31, 2009 as compared to the year ended December 31, 2008. This Item is organized as follows:

- "Background" describes our principal operational activities and summarizes significant trends and developments in our business and in our industry.
- "Going Concern" discusses going concern considerations.
- "Critical Accounting Policies and Estimates" discusses our most critical accounting policies.
- "Recently Issued Accounting Standards" discusses new accounting standards.
- "Consolidated Results of Operations" discusses the primary factors that are likely to contribute to significant variability of our results of operations for the year ended December 31, 2009 as compared to the year ended December 31, 2008, and the year ended December 31, 2008 as compared to the year ended December 31, 2007.
- "Liquidity and Capital Resources" discusses our cash requirements, sources and uses of cash and liquidity, including going concern qualifications.
- "Off-Balance Sheet Arrangements" indicates that we did not have any off-balance sheet arrangements as of December 31, 2009.

In addition, Item 9A "Controls and Procedures" contains management's assessment of our internal controls over financial reporting as of December 31, 2009.

Background

We are a biotechnology company focused on the discovery, development and commercialization of pharmaceuticals based on RNA interference ("RNAi"). Our goal is to be the leader in RNAi therapeutics and improve human health through the development of RNAi-based compounds that provide superior therapeutic options for patients. Our team of approximately 30 scientists brings expertise in the discovery, evaluation and optimization of small interfering RNAs ("siRNAs") as well as siRNA delivery. We have the requisite experience in the areas of RNAi, molecular and cellular biology, lipid, oligonucleotide and peptide chemistry, pharmacology and bioinformatics necessary to discover and develop tailored RNAi-based compounds designed to elicit specific therapeutic effects on a target-by-target basis. Our infrastructure provides for pre-clinical scale manufacturing of both siRNAs and delivery materials, the comprehensive analysis and optimization of these compounds both individually and as drug candidates, and the filing of Investigational New Drug Applications. In addition to our own, internally developed technologies, we strategically in-license and further develop RNAi- and delivery-related technologies, forming a single integrated drug discovery platform. In order to protect our innovations, which encompass a broad platform of both siRNA and delivery technologies, and the eventual drug products that emerge from that platform, we will aggressively continue to build upon our extensive and enabling intellectual property ("IP") estate.

Our business strategy is two-fold. First, we strive to establish collaborations and strategic partnerships with pharmaceutical and biotechnology companies in the area of RNAi-based therapeutics to: (1) generate revenue and non-dilutive financing; (2) gain access to technical resources; and (3) validate our drug discovery platform. Secondly, we expect to advance our own pipeline of RNAi-based therapeutics as a foundation upon which to improve all aspects of our drug discovery platform and to have the opportunity to commercialize drug therapies. Our pipeline is focused on bladder and liver cancer. With respect to collaborations and strategic partnerships, we are currently focused on our UsiRNA constructs, as well as our DiLA^2 and peptide delivery technologies. Collaborations are expected to range from feasibility studies to development of full scale therapeutic candidates. Typically, we would expect to collaborate with partners who can take a drug candidate through to commercialization by utilizing their late stage clinical development, regulatory, marketing and sales capabilities. We expect to structure our collaborative arrangements in such a manner to receive upfront non-refundable payments, research and development funding, milestone payments and royalties on commercial sales of products.

We are developing novel technologies and therapeutics based on the Nobel Prize-winning discovery of RNAi. The discovery of RNAi, in 1998, has led not only to its widespread use in the research of biological mechanisms and target validation but also to its application in down regulating the expression of certain disease-causing proteins found in a wide spectrum of diseases including inflammation, cancer, and metabolic dysfunction. RNAi-based therapeutics work through a naturally occurring process within cells that has the effect of reducing levels of messenger RNA (mRNA) required for the production of proteins. RNAi enables the targeting of disease at a genetic level and thus is highly specific to particular disease-causing proteins. At this time, several RNAi-based therapeutics are being evaluated in human clinical trials.

We have created a drug discovery platform, which combines novel and proprietary siRNA constructs with novel and proprietary siRNA delivery technologies, to develop RNAi-based therapeutics for the treatment of human diseases. In 2009, we demonstrated pre-clinical efficacy with our UsiRNA constructs and DiLA^2-based delivery with local and systemic routes of administration in rodent models of bladder and liver cancer, respectively. Based on successful data for RNAi-mediated inhibition of target mRNA expression and reduction in tumor growth, our oncology programs and resources in this area have been focused on liver cancer (hepatocellular carcinoma — HCC) and bladder cancer. We intend to build on our pre-clinical oncology successes as we move these programs toward early clinical studies. In addition, we will continue to increase the breadth and capabilities of our drug discovery platform including further demonstration of the unique advantages and potency of the UsiRNA construct, increasing the breadth of the DiLA^2 delivery platform, and advancing additional proprietary delivery technologies. Our business model anticipates that the advancement of a therapeutic pipeline, either through partnerships or on our own, will provide proof of concept for our drug discovery platform as well as value for shareholders.

We believe we have established ourselves as a leading RNAi-based therapeutics company by leveraging our broad and proven expertise in RNAi science and delivery into an industry-leading RNAi drug discovery platform, which is protected by a strong IP position and validated through licensing agreements with two large international pharmaceutical companies. As a result of our collaborations and other agreements, we recognized revenue of approximately $2.6 million in 2008 and $14.7 million in 2009. In 2008, our revenue related primarily to our intranasal programs including the supply agreement with QOL for Nascobal® and agreements with feasibility partners. In 2009, our revenue was primarily from licensing our RNAi platforms including agreements with Novartis and Roche.

Going Concern

The accompanying consolidated financial statements have been prepared on the basis that we will continue as a going concern, which contemplates realization of assets and the satisfaction of liabilities in the normal course of business. As of December 31, 2009, we had an accumulated deficit of approximately $263.0 million and expect to incur losses in the future as we continue our research and development ("R&D") activities. In 2008 we suspended all research and clinical development of our intranasal programs and, as of September 30, 2008, incurred a restructuring charge to exit a facility which was used primarily for our intranasal activities. As of September 30, 2008, our accumulated deficit, which was primarily related to clinical development of our intranasal programs, was approximately $241.8 million. Our operating expenses, primarily R&D in connection with the further development of our RNAi programs, will consume the majority of our cash resources and will require additional funding. We have funded our losses primarily through the sale of common stock and warrants in the public markets and private placements, revenue provided by our collaboration partners, and, to a lesser extent, equipment financing facilities and loans.

At December 31, 2009, we had a working capital deficit (current assets less current liabilities) of approximately $2.5 million and approximately $1.7 million in cash and cash equivalents, including approximately $1.0 million in restricted cash. In January 2010, we received net proceeds of approximately $4.9 million in a registered direct offering of 5,385,557 shares of common stock and 3,500,612 warrants. In addition, in January 2010, warrants issued in 2009, having an exercise price of $1.02 per share were exercised, pursuant to which we received cash proceeds of approximately $2.6 million and issued 2,500,000 shares of our common stock. We believe that our current resources will be sufficient to fund our planned operations well into the second quarter of 2010.

We plan to continue to work with large pharmaceutical companies regarding research and development collaboration agreements or investments, and to pursue public and private sources of financing to raise cash. However, there can be no assurance that we will be successful in such endeavors. The market value and the volatility of our stock price, as well as general market conditions, could make it difficult for us to complete a financing transaction on favorable terms, or at all. Any financing we obtain may further dilute the ownership interest of our current stockholders. If we are unable to obtain additional capital when required, we could modify, delay or abandon some or all of our programs. These factors, among others, raise substantial doubt about our ability to continue as a going concern. The accompanying consolidated financial statements do not include any adjustments that may result from the outcome of this uncertainty. The Report of Independent Register Public Accounting Firm included in this Annual Report states that these conditions, among others, raise substantial doubt about our ability to continue as a going concern.

Critical Accounting Policies and Estimates

We prepare our consolidated financial statements in conformity with accounting principles generally accepted in the United States of America. As such, we are required to make certain estimates, judgments and assumptions that we believe are reasonable based upon the information available. These estimates and assumptions affect the reported amounts of assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the periods presented. Actual results

could differ significantly from those estimates under different assumptions and conditions. We believe that the following discussion addresses our most critical accounting estimates, which are those that we believe are most important to the portrayal of our financial condition and results of operations and which require our most difficult and subjective judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain. Other key estimates and assumptions that affect reported amounts and disclosures include depreciation and amortization, inventory reserves, asset impairments and restructuring accruals. We also have other policies that we consider key accounting policies; however, these policies do not meet the definition of critical accounting estimates because they do not generally require us to make estimates or judgments that are difficult or subjective.

Revenue Recognition

Revenue Recognition — Revenue is recognized when there is persuasive evidence that an arrangement exists, delivery has occurred, collectability is reasonably assured, and fees are fixed or determinable. Deferred revenue expected to be realized within the next 12 months is classified as current. Substantially all of our revenues are generated from research and development collaborations and licensing arrangements with partners that may involve multiple deliverables. For multiple-deliverable arrangements, judgment is required to evaluate, whether (a) an arrangement involving multiple deliverables contains more than one unit of accounting, and (b) how the arrangement consideration should be measured and allocated to the separate units of accounting in the arrangement. Our research and development collaborations may include upfront non-refundable payments, development milestone payments, R&D funding, patent-based or product sale royalties, and product sales. In addition, we may receive revenues from licensing arrangements. For each separate unit of accounting, we have determined that the delivered item has value to the customer on a stand-alone basis, we have objective and reliable evidence of fair value using available internal evidence for the undelivered item(s) and our arrangements generally do not contain a general right of return relative to the delivered item. We use the residual method to allocate the arrangement consideration when we do not have an objective fair value for a delivered item. Under the residual method, the amount of consideration allocated to the delivered item equals the total arrangement consideration less the aggregate fair value of the undelivered items.

Revenue from research and development collaborations is recorded when earned based on the specific terms of the contracts. Upfront non-refundable payments, where we are not providing any continuing services as in the case of a license to our IP, are recognized when delivery of the license has occurred. Upfront nonrefundable payments, where we are providing continuing services related to a research and development effort, are deferred and recognized as revenue over the collaboration period. The ability to estimate the total research and development effort and costs can vary significantly for each contract due to the inherent complexities and uncertainties of drug research and development. The estimated period of time over which we recognize certain revenues is based upon structured detailed project plans completed by our project managers, who meet with scientists and collaborative counterparts on a regular basis and schedule the key project activities and resources including headcount, facilities and equipment and budgets. These periods generally end on projected milestone dates typically associated with the stages of drug development, i.e. filing of an IND, initiation of a Phase 1 human clinical trial or filing of an NDA. We typically do not disclose the specific project planning details of a research and development collaboration for competitive reasons and due to confidentiality clauses in our contracts. As drug candidates and drug compounds move through the research and development process, it is necessary to revise these estimates to consider changes to the project plan, portions of which may be outside of our control. The impact on revenue of changes in our estimates and the timing thereof is recognized prospectively over the remaining estimated development period.

Milestone payments typically represent nonrefundable payments to be received in conjunction with the achievement of a specific event identified in the contract, such as initiation or completion of specified development activities or specific regulatory actions such as the filing of an IND. We believe a milestone payment represents the culmination of a distinct earnings process when it is not associated with ongoing

research, development or other performance on our part and it is substantive in nature. We recognize such milestone payments as revenue when they become due and collection is reasonably assured.

Revenue from R&D funding is generally received for services performed under research and development collaboration agreements and is recognized as services are performed. Payments received in excess of amounts earned are recorded as deferred revenue. Reimbursements received for direct out-of-pocket expenses related to contract R&D costs are recorded as revenue in the consolidated statements of operations rather than as a reduction in expenses.

Royalty and earn-out payment revenue is generally recognized upon product sale by the licensee as reported by the licensee. Government grant revenue is recognized during the period qualifying expenses are incurred for the research that is performed as set forth under the terms of the grant award agreements, and when there is reasonable assurance that we will comply with the terms of the grant and that the grant will be received.

Product revenue is recognized when the manufactured goods are shipped to the purchaser and title has transferred under our contracts where there is no right of return. Provision for potential product returns has been made on a historical trends basis.

Research and Development Costs

All research and development ("R&D") costs are charged to operations as incurred. Our R&D expenses consist of costs incurred for internal and external R&D. These costs include direct and research-related overhead expenses. We recognize clinical trial expenses, which are included in research and development expenses, based on a variety of factors, including actual and estimated labor hours, clinical site initiation activities, patient enrollment rates, estimates of external costs and other activity-based factors. We believe that this method best approximates the efforts expended on a clinical trial with the expenses recorded. We adjust our rate of clinical expense recognition if actual results differ from our estimates. As product candidates move through the development process, it is necessary to revise these estimates to consider changes to the product development cycle, such as changes in the clinical development plan, regulatory requirements, or various other factors, many of which may be outside of our control. The impact on revenue and research and development expenses of changes in our estimates and the timing thereof, is recognized prospectively over the remaining estimated product development period. The ability to estimate total development effort and costs can vary significantly for each product candidate due to the inherent complexities and uncertainties of drug development.

Stock-Based Compensation

We use the Black-Scholes-Merton option pricing model as our method of valuation for stock-based awards. Stock-based compensation expense is based on the value of the portion of the stock-based award that will vest during the period, adjusted for expected forfeitures. Our determination of the fair value of stock-based awards on the date of grant using an option pricing model is affected by our stock price as well as assumptions regarding a number of highly complex and subjective variables. These variables include, but are not limited to, the expected life of the award, expected stock price volatility over the term of the award and historical and projected exercise behaviors. The estimation of stock-based awards that will ultimately vest requires judgment, and to the extent actual or updated results differ from our current estimates, such amounts will be recorded in the period estimates are revised. The Black-Scholes-Merton option pricing model requires the input of highly subjective assumptions, and other reasonable assumptions could provide differing results.

For example, during 2009, approximately 3.4 million options were granted, which have a weighted average exercise price of $1.37 and weighted average fair value of $0.94 as determined by the Black-Scholes-Merton option pricing model. The following illustrates the effect of changing expected life and volatility assumptions on the estimated fair value using the Black-Scholes-Merton option pricing model of our options granted during 2009.

Effect of a one year change in estimated expected term:	- One Year	Current Estimate of Expected Life	+ One Year
Assumption changed			
Estimated option life	4.8 years	5.8 years	6.8 years
Assumptions held constant			
Exercise price	$ 1.37	$ 1.37	$ 1.37
Expected dividend yield	0%	0%	0%
Risk free rate	2.3%	2.3%	2.3%
Expected stock volatility	105%	105%	105%
Estimated fair value	$ 0.87	$ 0.94	$ 0.96

Effect of a 10% change in estimated volatility:	- 10%	Current Estimate of Volatility	+ 10%
Assumption changed			
Expected stock volatility	95%	105%	115%
Assumption held constant			
Exercise price	$ 1.37	$ 1.37	$ 1.37
Expected dividend yield	0%	0%	0%
Risk free rate	2.3%	2.3%	2.3%
Estimated option life	5.8 years	5.8 years	5.8 years
Estimated fair value	$ 0.87	$ 0.94	$ 0.97

Our reported net loss was $8.0 million for the year ended December 31, 2009. If the expected term for options granted during 2009 increased or decreased by one year (all other variables held constant), the impact on our reported net loss would be less than $0.1 million. If the estimated volatility for the options granted during the year ended December 31, 2009 decreased or increased by 10% (all other variables held constant), the impact on our reported net loss would be less than $0.1 million.

Stock-based compensation expense is recognized on a straight-line basis over the applicable vesting periods, based on the fair value of such stock-based awards on the grant date. We anticipate the expected term and estimated volatility will remain within the ranges listed above in the near term, however, unanticipated business or other conditions may change, which could result in differing future results.

Impairment of Long-Lived Assets and Assets Held for Sale

Long-lived assets, such as property and equipment, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Conditions that would necessitate an impairment include a significant decline in the observable market value of an asset, a significant change in the extent or manner in which an asset is used, or any other significant adverse change that would indicate that the carrying amount of an asset or group of assets is not recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized in the amount by which the carrying amount of the asset exceeds the fair value of the asset. Long-lived assets are considered held for sale when certain criteria are met, including whether management has committed to a plan to sell the asset, whether the asset is available for sale in its immediate condition, and whether the sale is probable within one year of the reporting date.

Fair Value Liability for Price Adjustable Warrants

We use the Black-Scholes-Merton option pricing model as our method of valuation for price adjustable warrants. Our determination of the fair value of price adjustable warrants as of the reporting date is affected by

our stock price as well as assumptions regarding a number of highly complex and subjective variables. These variables include, but are not limited to, expected stock price volatility over the term of the warrant and risk-free interest rate. The fair value liability is revalued each balance sheet date utilizing Black-Scholes-Merton valuation model computations with the decrease or increase in fair value being reported in the statement of operations as other income or expense, respectively. The Black-Scholes-Merton option pricing model requires the input of highly subjective assumptions, and other reasonable assumptions could provide differing results.

Accrued Restructuring Charges

We ceased using our facility at 3450 Monte Villa Parkway, Bothell, Washington ("3450 Monte Villa"), in 2008. We recorded an accrued liability for remaining lease termination costs at fair value, based on the remaining payments due under the lease and other costs, reduced by sublease rental income that could be reasonably obtained from the property, and discounted using a credit-adjusted risk-free interest rate. We use a credit-adjusted risk-free interest rate of 15%, and we based our estimated future payments on current rental rates available in the Bothell real estate market, and our evaluation of the ability to sublease the facility. Accrued restructuring, and in particular those charges associated with exiting a facility, are based upon management's estimates of future payments. These estimates significantly impact the accrual and actual results may differ from our estimates. We review these estimates at least quarterly and when there are changes in facts or circumstances, and adjust our accrual if necessary.

Income Taxes

Income Taxes — Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of assets and liabilities and their respective tax bases and operating loss and tax credit carry-forwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in operating results in the period that includes the enactment date.

We have identified our federal tax return and our state tax return in New York as "major" tax jurisdictions. The periods subject to examination for our federal and New York state income tax returns are the tax years ended in 1995 and thereafter, since we have net operating loss carryforwards for tax years from 1995. We believe our income tax filing positions and deductions will be sustained on audit and we do not anticipate any adjustments that would result in a material change to our financial position. Therefore, no reserves for uncertain income tax positions have been recorded Our policy for recording interest and penalties associated with audits is to record such items as a component of income (loss) before taxes.

Recently Issued Accounting Standards

In 2009, accounting guidance was issued, which establishes standards for accounting for certain revenue arrangements that include multiple-deliverable revenue arrangements, which is effective prospectively for revenue arrangements entered into or materially modified in fiscal years beginning on or after June 15, 2010. The guidance will be effective for our fiscal year beginning January 1, 2011. We are in the process of determining the effects that adoption of the guidance will have on our financial statements.

In 2009, the FASB issued guidance to revise the approach to determine when a variable interest entity ("VIE") should be consolidated. The new consolidation model for VIEs considers whether the investor has the power to direct the activities that most significantly impact the VIE's economic performance and shares in the significant risks and rewards of the entity. The guidance on VIEs requires companies to continually reassess VIEs to determine if consolidation is appropriate and provide additional disclosures. This guidance will be applicable for us prospectively to future VIEs, if any.

Consolidated Results of Operations

Comparison of Annual Results of Operations

All amounts, except amounts expressed as a percentage, are presented in thousands in the following table.

	Years Ended December 31,		Change	
	2008	2009	$	%
Revenue				
License and other revenue	$ 1,360	$14,643	$ 13,283	977%
Product revenue	972	70	(902)	(93)%
Government grants	277	19	(258)	(93)%
Total revenue	2,609	14,732	12,123	465%
Operating expenses				
Cost of product revenue	2,906	—	(2,906)	(100)%
Research and development	36,771	14,882	(21,889)	(60)%
Selling, general and administrative	13,617	10,088	(3,529)	(26)%
Restructuring	8,257	455	(7,802)	(94)%
Total operating expenses	61,551	25,425	(36,126)	(59)%
Interest income	519	5	(514)	(99)%
Interest and other expense	(797)	(538)	259	(32)%
Change in fair value liability for price adjustable warrants	—	2,526	2,526	
Gain on settlement of liabilities, net	—	654	654	
Net loss	$(59,220)	$ (8,046)	$ 51,174	(86)%

Comparison of Year Ended December 31, 2009 to the Year Ended December 31, 2008

Revenue. We had revenue from certain customers, as a percentage of total revenue, as follows:

	Years Ended December 31,	
	2008	2009
Novartis	—	51%
Roche	—	34%
Amylin	1%	7%
QOL Medical	56%	6%
Par Pharmaceuticals	—	2%
Government grant	11%	—
Undisclosed partner — undisclosed compounds	21%	—
Undisclosed partner — Factor IX	11%	—
Total	100%	100%

License and other revenue. License and other revenue increased by approximately $13.3 million in 2009 compared to $1.4 million in 2008. In 2009, license and other revenue was primarily from licensing our RNAi platforms including revenue of $7.5 million from Novartis and $5.0 million from Roche as well as a $1.0 million milestone payment received from Amylin, recognition of approximately $0.7 million in deferred revenue under the QOL agreement and revenue recognized under the asset purchase agreement with Par. In 2008 license and other revenue consisted primarily of revenue from our intranasal partners including QOL Medical and other collaboration or feasibility partners.

Product Revenue and cost of product revenue. Product revenue, which consisted of sales of Nascobal® brand products, decreased $0.9 million in 2009 to $0.1 million compared to $1.0 million in 2008. As a result of the Asset Purchase Agreement with Par which we entered into in March 2009, our Supply Agreement for Nascobal® brand products with QOL was terminated and we no longer receive product revenue from Nascobal®. We recognized approximately $0.1 million in 2009 related to a cancellation fee paid by QOL for cancellation of a planned production lot. We expect no product revenue for 2010. Cost of product revenue consists of raw materials, labor and overhead expenses. We did not produce any production lots of Nascobal® nasal spray in 2009. We recorded a non-cash charge of approximately $2.6 million to cost of goods sold related to the write-down of inventory in 2008.

Government grants revenue. The National Institutes of Health awarded us a grant in September 2006 for $1.9 million over a five year period to prevent and treat influenza. Revenue recognized under this grant totaled approximately $19,000 and $0.3 million 2009 and 2008, respectively. We terminated our government grant in 2009.

Research and Development. R&D expense consists primarily of salaries and other personnel-related expenses, costs of pre-clinical studies and clinical trials, consulting and other outside services, laboratory supplies, facilities costs and other costs. We expense all R&D costs as incurred. R&D expense decreased approximately $21.9 million to $14.9 million in 2009 compared to $36.8 million in 2008, due primarily to the following:

- Personnel-related expenses decreased by 55% to approximately $5.1 million in 2009 compared to $11.2 million in 2008, due primarily to a decrease in headcount as a result of our restructuring and due to severance costs incurred in 2008 for termination of our former Chief Scientific Officer.
- Costs of pre-clinical and clinical trials, lab supplies, consulting, and outside testing and services decreased by 80% to approximately $1.8 million in 2009 compared to $9.2 million in 2008. The costs for the 2009 period were significantly lower than 2008 as we restructured our business from a clinical stage intranasal drug delivery company to a pre-clinical RNAi drug discovery company. Patent license fees increased by approximately $1.5 million to $3.6 million in 2009 due to our acquisition of intellectual property from Ribotask ApS and fees paid in connection with our license agreement with the City of Hope.
- Facilities and equipment costs decreased by 47% to approximately $4.1 million in 2009 compared to $7.8 million in 2008 due to a decrease in rent and related expenses as a result of facilities consolidation and a decrease in depreciation of equipment and related maintenance and calibration costs as a result of the sale or retirement of excess equipment. Depreciation expense included in R&D was approximately $1.7 million and $3.0 million in 2009 and 2008, respectively.
- Stock-based compensation included in R&D expense decreased by approximately $6.0 million to $0.2 million in 2009 compared to $6.2 million in 2008. The 2008 period included stock based compensation related to acceleration of vesting of stock awards in connection with the termination of our former Chief Scientific Officer.

R&D expense by project, as a percentage of total R&D project expense, was as follows:

	Years Ended December 31,	
	2008	2009
RNAi projects	42%	97%
Legacy intranasal projects	58%	3%
Total	100%	100%

We expect our R&D expenses to increase in 2010 as we advance our RNAi-related projects.

Selling, general and administrative. Selling, general and administrative expense consists primarily of salaries and other personnel-related expenses to support our R&D activities, stock-based compensation for selling, general and administrative personnel and non-employee members of our Board, professional fees, such as accounting and legal, corporate insurance and facilities costs. The 26% decrease in selling, general and administrative expenses in 2009 compared to 2008 resulted primarily from the following:

- Costs of legal and accounting fees, corporate insurance and other administrative costs decreased by 33% to approximately $4.4 million in 2009 compared to $6.5 million in 2008 due to cost containment efforts. Included in the $6.5 million in 2008 were $3.4 million in legal expenses, compared to $2.1 million in the current year.
- Personnel-related expenses decreased by 15% to $3.1 million in 2009 compared to $3.7 million in 2008 due primarily to decreased headcount related to administrative activities.
- Stock-based compensation expense included in general and administrative expense decreased by 30% to approximately $1.6 million in 2009 from approximately $2.3 million in 2008 primarily due to decreased headcount.
- Facilities and equipment costs decreased by 13% to approximately $1.0 million in 2009 compared to $1.1 million in 2008 due to a decrease in rent and related expenses as a result of facilities consolidation.

We expect selling, general and administrative expenses to continue to decrease in 2010.

Restructuring. We have recorded restructuring charges related to employee termination costs which resulted from company-wide reductions in force, our facilities consolidation and impairment of assets. Restructuring expense decreased to approximately $0.5 million in 2009 compared to $8.3 million in 2008, due to the following.

- Employee severance and termination benefits for our reductions in force including stock compensation charges were zero in 2009 compared to $4.0 million in 2008.
- Facility related charges decreased by $1.7 million to $0.3 million in 2009 compared to $2.0 million in 2008. During 2008, we exited our facility at 3450 Monte Villa and recorded a restructuring liability, representing estimated future payments due under the lease and other costs and discounted using a credit-adjusted risk-free interest rate. We evaluate the assumptions used in our estimate on a quarterly basis and record additional restructuring and accretion charges with respect to our estimate of this liability.
- Property and equipment impairment charges decreased by $1.8 million to $0.2 million in 2009 compared to $2.0 million in 2008, primarily due to an impairment charge recorded in 2008 relating to leasehold improvements in the exited facility and property and equipment which we ceased to use.

Interest Income. The decrease in interest income to approximately $5,000 in 2009 compared to $0.5 million in 2008 was primarily due to lower average balances available for investment.

Interest and Other Expense. We incurred interest expense on our capital leases and in 2009 on our notes payable. The decrease in interest expense to approximately $0.5 million in 2009 compared to $0.8 million in 2008 was primarily due to a decrease in the average borrowings. During 2009 and 2008, borrowing rates ranged from 9.2% to 12.3% and 9.1% to 10.6%, respectively. We expect interest expense to increase in 2010 as a result of amortization of the debt discount on the notes payable issued in December 2009.

Change in fair value liability for price adjustable warrants. In 2009, we recorded income related to the net decrease in valuation of the price adjustable warrants of approximately $2.5 million based on the December 31, 2009 closing price of our stock of $0.81 per common share. During 2008, liability accounting was not yet required for our warrants and therefore we did not record a gain or loss related to valuation of our warrants.

Gain on settlement of liabilities, net. We recorded a net gain on settlement of liabilities of approximately $0.7 million in 2009. This included a gain of approximately $0.7 million relating to the amendment of our agreement regarding severance obligations with our former Chief Scientific Officer. In addition, we recorded a gain of approximately $0.2 million related to the issuance of shares of stock valued at $0.4 million to certain of our vendors to settle amounts due to these vendors of approximately $0.6 million in total. These gain amounts were partially offset by a lease termination fee of approximately $0.2 million incurred pursuant to the termination of our capital lease agreement. We did not incur any gains or losses on settlement of liabilities in 2008.

Liquidity and Capital Resources

Cash flows

Our operating activities used cash of approximately $7.5 million in 2009, compared to $40.5 million in 2008. Cash used in operating activities relates primarily to funding net losses and changes in deferred revenue, accounts payable and other accrued liabilities, partially offset by non-cash restructuring charges, depreciation and amortization and stock-based compensation. We expect to use cash for operating activities in the foreseeable future as we continue our R&D activities.

Our investing activities provided cash of approximately $2.3 million in 2009, compared to $12.1 million in 2008. Changes in cash from investing activities result from changes in restricted cash, maturities of short-term investments net of purchases and purchases of property and equipment. In 2009, cash provided by investing activities was primarily the result of the decrease in restricted cash of $1.3 million, which was used to pay down accrued restructuring lease liabilities, and approximately $1.2 million of proceeds from sales of equipment and other assets. In 2008, cash provided by investing activities was primarily the result of sales and maturities, net of purchases, of investments of approximately $11.7 million.

Our financing activities provided cash of approximately $4.9 million in 2009 compared to approximately $1.8 million in 2008. Changes in cash from financing activities are primarily due to issuance of common stock and warrants, proceeds and repayment of equipment financing facilities and notes payable and proceeds from exercises of stock options and warrants. We raised net proceeds of approximately $9.3 million in 2009 and $7.3 million in 2008 through offerings of shares of common stock and warrants to purchase shares of common stock. In 2009, we made payments on notes payable, which were previously capital lease obligations, of approximately $5.6 million, and in 2008, we made payments on capital lease obligations of approximately $5.6 million.

Recent Financing Activities

In January 2010, we received net proceeds of approximately $4.9 million in a registered direct offering of 5,385,577 shares of common stock together with warrants to purchase up to 3,500,612 shares of common stock at a purchase price of approximately $1.02 per unit. The warrants are exercisable for five years and have an exercise price of $1.00 per share, which is subject to downward price adjustment. As a result of the issuance of warrants with an exercise price of $1.00 per share, the exercise prices of 3,825,269 outstanding warrants that were previously issued in June 2009 and December 2009 were reduced to $1.00 per share. In January 2010, warrants priced at $1.02 per share were exercised resulting in cash proceeds of approximately $2.6 million and the issuance of 2,500,000 shares of our common stock. In addition, in January 2010, we paid all principal and accrued interest in full on the secured promissory notes that we issued in December 2009, and the related security interests on our assets and intellectual property were subsequently released.

Nasdaq Deficiency Notice

In November 2009, we received a Staff Deficiency Letter from The Nasdaq Stock Market ("Nasdaq") notifying us that for the 10 consecutive trading days ending on November 5, 2009, the aggregate market value of our common stock was below the $50,000,000 minimum market value required for continued listing on the

Nasdaq Global Market, as specified by Marketplace Rule 5450(b)(2)(A). In accordance with Marketplace Rule 5810(c)(3)(C), we had 90 calendar days, or until February 4, 2010 to regain compliance with the minimum market value requirement. To regain compliance, the closing market value of our common stock must equal or exceed $50,000,000 for a minimum of 10 consecutive business days or for such longer period that Nasdaq may, in its discretion, require. In February 2010 Nasdaq extended the time that it can grant issuers to regain compliance and accordingly, our date to regain compliance with the minimum market value requirement was extended to May 5, 2010. On March 22, 2010 we received notification from Nasdaq that we have regained compliance with Marketplace Rule 5450(b)(2)(A) and the matter is now closed.

Summary

We believe that our current resources are sufficient to fund our planned operations well into the second quarter of 2010. We based our estimate on our ability to perform planned R&D activities, and the receipt of planned funding. The market value and the volatility of our stock price, as well as general market conditions, could make it difficult for us to complete a financing transaction on favorable terms, or at all. Any financing we obtain may further dilute or otherwise impair the ownership interests of our current stockholders. If we fail to generate positive cash flows or fail to obtain additional capital when required, we could modify, delay or abandon some or all of our programs.

Off-Balance Sheet Arrangements

As of December 31, 2009, we did not have any off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of SEC Regulation S-K.

ITEM 8. ***Financial Statements and Supplementary Data.***

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
MDRNA, Inc.

We have audited the accompanying consolidated balance sheets of MDRNA, Inc. and subsidiaries (the "Company") as of December 31, 2008 and 2009, and the related consolidated statements of operations, stockholders' equity (deficit) and comprehensive loss, and cash flows for each of the years in the two-year period ended December 31, 2009. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of MDRNA, Inc. and subsidiaries as of December 31, 2008 and 2009, and the results of their operations and their cash flows for each of the years in the two-year period ended December 31, 2009, in conformity with U.S. generally accepted accounting principles.

As discussed in Note 1 to the consolidated financial statements, the Company changed its method of accounting for warrants no longer considered indexed to the Company's own stock effective January 1, 2009.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has incurred recurring losses, has had recurring negative cash flows from operations, and has an accumulated deficit that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from this uncertainty.

/s/ KPMG LLP

Seattle, WA
March 23, 2010

MDRNA, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

	December 31, 2008	December 31, 2009
	(In thousands, except share and per share data)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 1,084	$ 748
Restricted cash	2,268	998
Accounts receivable	32	211
Inventories	98	—
Prepaid expenses and other current assets	935	700
Assets held for sale	541	—
Total current assets	4,958	2,657
Property and equipment, net	7,844	4,569
Other assets	335	3
Total assets	$ 13,137	$ 7,229
LIABILITIES AND STOCKHOLDERS' DEFICIT		
Current liabilities:		
Accounts payable	$ 2,039	$ 2,114
Accrued payroll and employee benefits	2,410	913
Other accrued liabilities	1,472	1,361
Notes payable, net of discount	—	317
Accrued restructuring — current portion	2,091	425
Deferred revenue — current portion	400	—
Capital lease obligations — current portion	4,112	—
Total current liabilities	12,524	5,130
Accrued restructuring, net of current portion	609	281
Capital lease obligations, net of current portion	1,017	—
Deferred revenue, net of current portion	318	—
Deferred rent and other liabilities	1,928	1,461
Fair value liability for price adjustable warrants	—	7,243
Total liabilities	16,396	14,115
Commitments and contingencies		
Stockholders' deficit:		
Preferred stock, $.01 par value; 100,000 shares authorized: no shares issued and outstanding	—	—
Common stock and additional paid-in capital, $0.006 par value; 90,000,000 shares authorized, 31,244,018 shares issued and outstanding as of December 31, 2008 and 40,806,941 shares issued and outstanding as of December 31, 2009	250,826	256,131
Accumulated deficit	(254,085)	(263,017)
Total stockholders' deficit	(3,259)	(6,886)
Total liabilities and stockholders' deficit	$ 13,137	$ 7,229

See notes to consolidated financial statements

MDRNA, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended December 31,	
	2008	2009
	(In thousands, except per share data)	
Revenue:		
License and other revenue	$ 1,360	$ 14,643
Product revenue	972	70
Government grants	277	19
Total revenue	2,609	14,732
Operating expenses:		
Cost of product revenue, including inventory write-down of $2,579 in 2008	2,906	—
Research and development	36,771	14,882
Selling, general and administrative	13,617	10,088
Restructuring	8,257	455
Total operating expenses	61,551	25,425
Loss from operations	(58,942)	(10,693)
Other income (expense):		
Interest income	519	5
Interest and other expense	(797)	(538)
Change in fair value liability for price adjustable warrants	—	2,526
Gain on settlement of liabilities, net	—	654
Total other income (expense), net	(278)	2,647
Net loss	$(59,220)	$ (8,046)
Net loss per common share — basic and diluted	$ (2.01)	$ (0.21)
Shares used in computing net loss per share — basic and diluted	29,529	37,457

See notes to consolidated financial statements

MDRNA, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT) AND COMPREHENSIVE LOSS

	Common Stock and Additional Paid-In Capital		Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity (Deficit)
	Shares	Amount			
	(In thousands, except share data)				
Balance December 31, 2007	26,753,430	$234,065	$(194,865)	$ 20	$ 39,220
Proceeds from the issuance of common shares, net	4,664,868	7,349	—	—	7,349
Compensation related to restricted stock	(174,280)	2,910	—	—	2,910
Compensation related to stock options and employee stock purchase plan	—	6,502	—	—	6,502
Net loss	—	—	(59,220)	—	(59,220)
Unrealized loss on securities available for sale	—	—	—	(20)	(20)
Comprehensive loss	—	—	—	—	(59,240)
Balance December 31, 2008	31,244,018	250,826	(254,085)	—	(3,259)
Cumulative effect of change in accounting principle	—	—	(886)	—	(886)
Balance January 1, 2009	31,244,018	250,826	(254,971)	—	(4,145)
Proceeds from the issuance of common shares, net	5,250,000	1,221	—	—	1,221
Shares issued in connection with settlement of liabilities	3,596,010	982	—	—	982
Shares issued in connection with amendment of license agreement	606,061	1,000	—	—	1,000
Proceeds from the exercise of options, warrants and employee stock purchase plan purchases	124,858	181	—	—	181
Reclassification of fair value of warrants exercised	—	109	—	—	109
Compensation related to restricted stock, net of forfeitures	(14,006)	(340)	—	—	(340)
Compensation related to stock options and employee stock purchase plan, net of forfeitures	—	2,152	—	—	2,152
Net loss	—	—	(8,046)	—	(8,046)
Balance December 31, 2009	40,806,941	$256,131	$(263,017)	$ —	$ (6,886)

See notes to consolidated financial statements

MDRNA, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended December 31,	
	2008	2009
	(In thousands)	
Operating activities:		
Net loss	$(59,220)	$(8,046)
Adjustments to reconcile net loss to net cash used in operating activities:		
Non-cash compensation related to stock options and employee stock purchase plan	6,108	2,152
Non-cash compensation (benefit) related to restricted stock	2,437	(340)
Depreciation and amortization	4,114	2,369
Non-cash amortization of discount on notes payable and debt issuance costs	—	223
Accretion of restructuring liability	37	174
Loss on disposition of property and equipment	23	387
Write-down of inventories and prepaid supplies	2,681	—
Non-cash restructuring charges	4,373	93
Net gain on settlement of liabilities	—	(654)
Change in fair value of price adjustable warrants	—	(2,526)
Changes in assets and liabilities:		
Accounts receivable	292	(179)
Inventories	12	6
Prepaid expenses and other assets	654	421
Accounts payable	(2,177)	641
Deferred revenue	(675)	(718)
Accrued liabilities and deferred rent	867	15
Accrued restructuring	—	(1,543)
Net cash used in operating activities	(40,474)	(7,525)
Investing activities:		
Change in restricted cash	(113)	1,270
Purchases of investments	(1,024)	—
Sales and maturities of investments	12,718	—
Proceeds from sales of equipment and other assets	643	1,159
Purchases of property and equipment	(123)	(94)
Net cash provided by investing activities	12,101	2,335
Financing activities:		
Proceeds from sales of common shares and warrants, net	7,349	9,332
Proceeds from issuance of notes payable and warrants, net	—	888
Payments on capital lease obligations	(5,596)	—
Payments on notes payable	—	(5,547)
Proceeds from exercise of stock options, warrants and employee stock purchase plan purchases	—	181
Net cash provided by financing activities	1,753	4,854
Net decrease in cash and cash equivalents	(26,620)	(336)
Cash and cash equivalents — beginning of year	27,704	1,084
Cash and cash equivalents — end of year	$ 1,084	$ 748
Non-cash financing activities:		
Note payable issued upon cancellation of capital lease obligations	$ —	$ 5,128
Issuance of common stock to settle liabilities	$ —	$ 1,982
Supplemental disclosure:		
Cash paid for interest	$ 857	$ 311

See notes to consolidated financial statements

Note 1 — Business, Going Concern and Summary of Significant Accounting Policies

Business

We are a biotechnology company focused on the discovery, development and commercialization of pharmaceuticals based on RNA interference ("RNAi"). Our goal is to be the leader in RNAi therapeutics and improve human health through the development of RNAi-based compounds that provide superior therapeutic options for patients. Our team of approximately 30 scientists brings expertise in the discovery, evaluation and optimization of small interfering RNAs ("siRNAs") as well as siRNA delivery. We have the requisite experience in the areas of RNAi, molecular and cellular biology, lipid, oligonucleotide and peptide chemistry, pharmacology and bioinformatics necessary to discover and develop tailored RNAi-based compounds designed to elicit specific therapeutic effects on a target-by-target basis. Our infrastructure provides for pre-clinical scale manufacturing of both siRNAs and delivery materials, the comprehensive analysis and optimization of these compounds both individually and as drug candidates, and the filing of Investigational New Drug Applications. In addition to our own, internally developed technologies, we strategically in-license and further develop RNAi- and delivery-related technologies, forming a single integrated drug discovery platform. In order to protect our innovations, which encompass a broad platform of both siRNA and delivery technologies, and the eventual drug products that emerge from that platform, we will aggressively continue to build upon our extensive and enabling intellectual property ("IP") estate.

Our business strategy is two-fold. First, we strive to establish collaborations and strategic partnerships with pharmaceutical and biotechnology companies in the area of RNAi-based therapeutics to: (1) generate revenue and non-dilutive financing; (2) gain access to technical resources; and (3) validate our drug discovery platform. Secondly, we expect to advance our own pipeline of RNAi-based therapeutics as a foundation upon which to improve all aspects of our drug discovery platform and to have the opportunity to commercialize drug therapies. Our pipeline is focused on bladder and liver cancer. With respect to collaborations and strategic partnerships, we are currently focused on our UsiRNA constructs, as well as our DiLA^2 and peptide delivery technologies. Collaborations are expected to range from feasibility studies to development of full scale therapeutic candidates. Typically, we would expect to collaborate with partners who can take a drug candidate through to commercialization by utilizing their late stage clinical development, regulatory, marketing and sales capabilities. We expect to structure our collaborative arrangements in such a manner to receive upfront non-refundable payments, research and development funding, milestone payments and royalties on commercial sales of products.

We are developing novel technologies and therapeutics based on the Nobel Prize-winning discovery of RNAi. The discovery of RNAi, in 1998, has led not only to its widespread use in the research of biological mechanisms and target validation but also to its application in down regulating the expression of certain disease-causing proteins found in a wide spectrum of diseases including inflammation, cancer, and metabolic dysfunction. RNAi-based therapeutics work through a naturally occurring process within cells that has the effect of reducing levels of messenger RNA (mRNA) required for the production of proteins. RNAi enables the targeting of disease at a genetic level and thus is highly specific to particular disease-causing proteins. At this time, several RNAi-based therapeutics are being evaluated in human clinical trials.

We have created a drug discovery platform, which combines novel and proprietary siRNA constructs with novel and proprietary siRNA delivery technologies, to develop RNAi-based therapeutics for the treatment of human diseases. In 2009, we demonstrated pre-clinical efficacy with our UsiRNA constructs and DiLA^2-based delivery with local and systemic routes of administration in rodent models of bladder and liver cancer, respectively. Based on successful data for RNAi-mediated inhibition of target mRNA expression and reduction in tumor growth, our oncology programs and resources in this area have been focused on liver cancer

(hepatocellular carcinoma — HCC) and bladder cancer. We intend to build on our pre-clinical oncology successes as we move these programs toward early clinical studies. In addition, we will continue to increase the breadth and capabilities of our drug discovery platform including further demonstration of the unique advantages and potency of the UsiRNA construct, increasing the breadth of the DiLA^2 delivery platform, and advancing additional proprietary delivery technologies. Our business model anticipates that the advancement of a therapeutic pipeline, either through partnerships or on our own, will provide proof of concept for our drug discovery platform as well as value for shareholders.

We believe we have established ourselves as a leading RNAi-based therapeutics company by leveraging our broad and proven expertise in RNAi science and delivery into an industry-leading RNAi drug discovery platform, which is protected by a strong IP position and validated through licensing agreements with two large international pharmaceutical companies.

Liquidity and Going Concern

The accompanying consolidated financial statements have been prepared on the basis that we will continue as a going concern, which contemplates realization of assets and the satisfaction of liabilities in the normal course of business. As of December 31, 2009, we had an accumulated deficit of approximately $263.0 million and expect to incur losses in the future as we continue our research and development ("R&D") activities. In 2008 we suspended all research and clinical development of our intranasal programs and, as of September 30, 2008, incurred a restructuring charge to exit a facility which was used primarily for our intranasal activities. As of September 30, 2008, our accumulated deficit, which was primarily related to clinical development of our intranasal programs, was approximately $241.8 million. Our operating expenses, primarily R&D in connection with the further development of our RNAi programs, will consume the majority of our cash resources and will require additional funding. We have funded our losses primarily through the sale of common stock and warrants in the public markets and private placements, revenue provided by our collaboration partners, and, to a lesser extent, equipment financing facilities and loans.

At December 31, 2009, we had a working capital deficit (current assets less current liabilities) of approximately $2.5 million and approximately $1.7 million in cash and cash equivalents, including approximately $1.0 million in restricted cash. In January 2010, we received net proceeds of approximately $4.9 million in a registered direct offering of 5,385,557 shares of common stock and 3,500,612 warrants. In addition, in January 2010, warrants issued in 2009, having an exercise price of $1.02 per share were exercised, pursuant to which we received cash proceeds of approximately $2.6 million and issued 2,500,000 shares of our common stock. We believe that our current resources will be sufficient to fund our planned operations well into the second quarter of 2010.

We plan to continue to work with large pharmaceutical companies regarding research and development collaboration agreements or investments, and to pursue public and private sources of financing to raise cash. However, there can be no assurance that we will be successful in such endeavors. The market value and the volatility of our stock price, as well as general market conditions, could make it difficult for us to complete a financing transaction on favorable terms, or at all. Any financing we obtain may further dilute the ownership interest of our current stockholders. If we are unable to obtain additional capital when required, we could modify, delay or abandon some or all of our programs. These factors, among others, raise substantial doubt about our ability to continue as a going concern. The accompanying consolidated financial statements do not include any adjustments that may result from the outcome of this uncertainty.

Summary of Significant Accounting Policies

Principles of Consolidation — The financial statements include the accounts of MDRNA, Inc. and our wholly-owned subsidiaries, Atossa HealthCare, Inc. ("Atossa") and MDRNA Research, Inc. All inter-company balances and transactions have been eliminated in consolidation.

Use of Estimates — The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires our management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, and reported amounts of revenues and expenses during the reporting periods. Estimates having relatively higher significance include revenue recognition, research and development costs, stock-based compensation, valuation of warrants, inventory reserves, impairment of long-lived assets, estimated accrued restructuring charges and income taxes. Actual results could differ from those estimates.

Cash Equivalents — Cash equivalents consist of cash, money market funds and investments in U.S. Government and Agency Securities paper with maturities of three months or less at date of purchase. We maintain cash and cash equivalent balances with financial institutions that, at times, exceed federally-insured limits. We have not experienced any losses related to these balances, and believe our credit risk is minimal.

Restricted Cash — Amounts pledged as collateral underlying letters of credit for facility lease deposits are classified as restricted cash. Changes in restricted cash have been presented as investing activities in the consolidated statements of cash flows.

Accounts Receivable and Allowance for Doubtful Accounts — Accounts receivable are shown at their net realizable value which approximates their fair value. We do not currently maintain an allowance for doubtful accounts based on our consideration of historical collection experience and the characteristics of existing accounts. We have not had any accounts receivable allowances or write-offs for any period presented.

Inventories — Inventories, substantially all of which are raw materials, are stated at the lower of cost or market (first-in, first-out basis). Also see Note 2 Inventories.

Property and Equipment — Property and equipment is stated at cost and depreciated using the straight-line method over estimated useful lives ranging from three to five years. Leasehold improvements are stated at cost and amortized using the straight-line method over the lesser of the estimated useful life or the remaining lease term. When assets are sold or retired, the cost and related accumulated depreciation are removed from the accounts and any resulting gain or loss is recognized. Expenditures for maintenance and repairs are charged to expense as incurred.

Impairment of Long-Lived Assets and Assets Held for Sale — Long-lived assets, such as property and equipment are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Conditions that would necessitate an impairment review include a significant decline in the observable market value of an asset, a significant change in the extent or manner in which an asset is used, or any other significant adverse change that would indicate that the carrying amount of an asset or group of assets is not recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized in the amount by which the carrying amount of the asset exceeds the fair value of the asset. We evaluated our long-lived assets for possible impairment and concluded that there was no impairment. Long-lived assets are considered held for sale when certain criteria are met, including whether management has committed to a plan to sell the asset, whether the asset is available for sale in its immediate condition, and whether the sale is probable within one year of the reporting date.

Accrued Restructuring — We ceased using our facility at 3450 Monte Villa Parkway, Bothell, Washington ("3450 Monte Villa") in 2008. We recorded an accrued liability for remaining lease termination costs at fair value, based on the remaining payments due under the lease and other costs, reduced by sublease rental income that could be reasonably obtained from the property, and discounted using a credit-adjusted risk-free interest rate. We based our estimated future payments on current rental rates available in the Bothell real estate market, and our evaluation of the ability to sublease the facility. Accrued restructuring, and in particular those charges associated with exiting a facility, are based upon management's estimates of future payments. These estimates significantly impact the accrual and actual results may differ from our estimates. We review these estimates at least quarterly and when there are changes in facts or circumstances, and adjust our accrual if necessary. For a further discussion of our restructuring charges, see Note 4 — Accrued Restructuring and Assets Held for Sale.

Fair Value of Financial Instruments — We consider the fair value of cash and cash equivalents, restricted cash, accounts receivable, accounts payable and accrued liabilities to not be materially different from their carrying value. These financial instruments have short-term maturities. The carrying value of notes payable approximated fair value as interest rates represented current market rates.

We follow authoritative guidance with respect to fair value reporting issued by the Financial Accounting Standards Board ("FASB"), for financial assets and liabilities, which defines fair value, provides guidance for measuring fair value and requires certain disclosures. The guidance does not apply to measurements related to share-based payments. The guidance discusses valuation techniques, such as the market approach (comparable market prices), the income approach (present value of future income or cash flow), and the cost approach (cost to replace the service capacity of an asset or replacement cost). The guidance establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The following is a brief description of those three levels:

Level 1: Observable inputs such as quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2: Inputs other than quoted prices that are observable for the asset or liability, either directly or indirectly. These include quoted prices for similar assets or liabilities in active markets and quoted prices for identical or similar assets or liabilities in markets that are not active.

Level 3: Unobservable inputs in which little or no market data exists, therefore developed using estimates and assumptions developed by us, which reflect those that a market participant would use.

All of our financial assets subject to fair value measurement are valued determined by Level 1 inputs. We currently measure and report at fair value the liability for price adjustable warrants using the Black-Scholes-Merton valuation model, a Level 3 input. The following table summarizes our financial liabilities measured at fair value on a recurring basis as of December 31, 2009 (in thousands):

	Balance at December 31, 2009	Level 1 Quoted prices in active markets for identical assets	Level 2 Significant other observable inputs	Level 3 Significant unobservable inputs
Liabilities:				
Fair value liability for price adjustable warrants	$7,243	—	—	$7,243
Total financial liabilities at fair value	$7,243	—	—	$7,243

The following presents activity of the fair value liability of price adjustable warrants determined by Level 3 inputs (in thousands):

Balance at December 31, 2008	$ —
Cumulative effect of change in accounting	886
Balance at January 1, 2009	886
Reclassification of fair value of warrants exercised	(109)
Fair value of warrants issued	8,992
Change in fair value included in statement of operations	(2,526)
Balance at December 31, 2009	$ 7,243

Concentration of Credit Risk and Significant Customers — We operate in an industry that is highly regulated, competitive and rapidly changing and involves numerous risks and uncertainties. Significant technological and/or regulatory changes, the emergence of competitive products and other factors could negatively impact our consolidated financial position or results of operations.

We have been dependent on our collaborative and license agreements with a limited number of third parties for a substantial portion of our revenue, and our discovery and development activities may be delayed or reduced if we do not maintain successful collaborative arrangements. We had revenue from customers, as a percentage of total revenue, as follows:

	Years Ended December 31,	
	2008	2009
Novartis	—	51%
Roche	—	34%
Amylin	1%	7%
QOL Medical	56%	6%
Par Pharmaceuticals	—	2%
Government grant	11%	—
Undisclosed partner — undisclosed compounds	21%	—
Undisclosed partner — Factor IX	11%	—
Total	100%	100%

Revenue Recognition — Revenue is recognized when there is persuasive evidence that an arrangement exists, delivery has occurred, collectability is reasonably assured, and fees are fixed or determinable. Deferred revenue expected to be realized within the next 12 months is classified as current. Substantially all of our revenues are generated from research and development collaborations and licensing arrangements with partners that may involve multiple deliverables. For multiple-deliverable arrangements, judgment is required to evaluate, whether (a) an arrangement involving multiple deliverables contains more than one unit of accounting, and (b) how the arrangement consideration should be measured and allocated to the separate units of accounting in the arrangement. Our research and development collaborations may include upfront non-refundable payments, development milestone payments, R&D funding, patent-based or product sale royalties, and product sales. In addition, we may receive revenues from licensing arrangements. For each separate unit of accounting, we have determined that the delivered item has value to the customer on a stand-alone basis, we have objective and reliable evidence of fair value using available internal evidence for the undelivered item(s) and our arrangements generally do not contain a general right of return relative to the delivered item. We use the residual method to

allocate the arrangement consideration when we do not have an objective fair value for a delivered item. Under the residual method, the amount of consideration allocated to the delivered item equals the total arrangement consideration less the aggregate fair value of the undelivered items.

Revenue from research and development collaborations is recorded when earned based on the specific terms of the contracts. Upfront non-refundable payments, where we are not providing any continuing services as in the case of a license to our IP, are recognized when delivery of the license has occurred. Upfront nonrefundable payments, where we are providing continuing services related to a research and development effort, are deferred and recognized as revenue over the collaboration period. The ability to estimate the total research and development effort and costs can vary significantly for each contract due to the inherent complexities and uncertainties of drug research and development. The estimated period of time over which we recognize certain revenues is based upon structured detailed project plans completed by our project managers, who meet with scientists and collaborative counterparts on a regular basis and schedule the key project activities and resources including headcount, facilities and equipment and budgets. These periods generally end on projected milestone dates typically associated with the stages of drug development, i.e. filing of an IND, initiation of a Phase 1 human clinical trial or filing of an NDA. We typically do not disclose the specific project planning details of a research and development collaboration for competitive reasons and due to confidentiality clauses in our contracts. As drug candidates and drug compounds move through the research and development process, it is necessary to revise these estimates to consider changes to the project plan, portions of which may be outside of our control. The impact on revenue of changes in our estimates and the timing thereof is recognized prospectively over the remaining estimated development period.

Milestone payments typically represent nonrefundable payments to be received in conjunction with the achievement of a specific event identified in the contract, such as initiation or completion of specified development activities or specific regulatory actions such as the filing of an IND. We believe a milestone payment represents the culmination of a distinct earnings process when it is not associated with ongoing research, development or other performance on our part and it is substantive in nature. We recognize such milestone payments as revenue when they become due and collection is reasonably assured.

Revenue from R&D funding is generally received for services performed under research and development collaboration agreements and is recognized as services are performed. Payments received in excess of amounts earned are recorded as deferred revenue. Reimbursements received for direct out-of-pocket expenses related to contract R&D costs are recorded as revenue in the consolidated statements of operations rather than as a reduction in expenses.

Royalty and earn-out payment revenue is generally recognized upon product sale by the licensee as reported by the licensee.

Government grant revenue is recognized during the period qualifying expenses are incurred for the research that is performed as set forth under the terms of the grant award agreements, and when there is reasonable assurance that we will comply with the terms of the grant and that the grant will be received.

Product revenue is recognized when the manufactured goods are shipped to the purchaser and title has transferred under our contracts where there is no right of return. Provision for potential product returns has been made on a historical trends basis.

Research and Development Costs — All research and development ("R&D") costs are charged to operations as incurred. Our R&D expenses consist of costs incurred for internal and external R&D. These costs include

direct and research-related overhead expenses. We recognize clinical trial expenses, which are included in research and development expenses, based on a variety of factors, including actual and estimated labor hours, clinical site initiation activities, patient enrollment rates, estimates of external costs and other activity-based factors. We believe that this method best approximates the efforts expended on a clinical trial with the expenses recorded. We adjust our rate of clinical expense recognition if actual results differ from our estimates. As product candidates move through the development process, it is necessary to revise these estimates to consider changes to the product development cycle, such as changes in the clinical development plan, regulatory requirements, or various other factors, many of which may be outside of our control. The impact on revenue and research and development expenses of changes in our estimates and the timing thereof, is recognized prospectively over the remaining estimated product development period. The ability to estimate total development effort and costs can vary significantly for each product candidate due to the inherent complexities and uncertainties of drug development.

Stock-Based Compensation — We use the Black-Scholes-Merton option pricing model as our method of valuation for stock-based awards. Stock-based compensation expense is based on the value of the portion of the stock-based award that will vest during the period, adjusted for expected forfeitures. The estimation of stock-based awards that will ultimately vest requires judgment, and to the extent actual or updated results differ from our current estimates, such amounts will be recorded in the period the estimates are revised. The Black-Scholes-Merton option pricing model requires the input of highly subjective assumptions, and other reasonable assumptions could provide differing results. Our determination of the fair value of stock-based awards on the date of grant using an option pricing model is affected by our stock price as well as assumptions regarding a number of highly complex and subjective variables. These variables include, but are not limited to, the expected life of the award and expected stock price volatility over the term of the award. Stock-based compensation expense is recognized on a straight-line basis over the applicable vesting periods of one to five years based on the fair value of such stock-based awards on the grant date.

Net Loss per Common Share — Basic and diluted net loss per common share is computed by dividing the net loss by the weighted average number of common shares outstanding during the period. Diluted loss per share excludes the effect of common stock equivalents (stock options, unvested restricted stock and warrants) since such inclusion in the computation would be anti-dilutive. The following numbers of shares have been excluded:

	Years Ended December 31,	
	2008	2009
Stock options outstanding	6,189,331	8,430,231
Unvested restricted stock	106,763	22,019
Warrants	6,196,875	11,547,860
Total	12,492,969	20,000,110

As described in Note 11 — Subsequent Events, in January 2010 we issued 2,500,000 shares of our common stock upon exercise of warrants and we issued 5,385,577 shares of our common stock together with warrants to purchase 3,500,612 shares of our common stock in connection with a registered direct offering.

Operating leases — We lease our facilities under operating leases. Our lease agreements may contain tenant improvement allowances, rent holidays, lease premiums, and lease escalation clauses. For purposes of recognizing incentives, premiums and minimum rental expenses on a straight-line basis over the terms of the leases, we use the date of initial possession to begin amortization, which is generally when we enter the space and begin to make improvements in preparation of intended use. For tenant improvement allowances and rent

holidays, we record a deferred rent liability on the consolidated balance sheets and amortize the deferred rent over the terms of the leases as reductions to rent expense on the consolidated statements of operations. For scheduled rent escalation clauses over the course of the lease term or for rental payments commencing at a date other than the date of initial occupancy, we record minimum rental expense on a straight-line basis over the terms of the leases in the consolidated statements of operations.

Income Taxes — Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of assets and liabilities and their respective tax bases and operating loss and tax credit carry-forwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

We have identified our federal tax return and our state tax return in New York as "major" tax jurisdictions. The periods subject to examination for our federal and New York state income tax returns are the tax years ended in 1995 and thereafter, since we have net operating loss carryforwards for tax years from 1995. We believe our income tax filing positions and deductions will be sustained on audit and we do not anticipate any adjustments that would result in a material change to our financial position. Therefore, no reserves for uncertain income tax positions have been recorded Our policy for recording interest and penalties associated with audits is to record such items as a component of income (loss) before taxes.

Comprehensive Income (Loss) — Comprehensive income (loss) is comprised of net loss and net unrealized gains or losses on available-for-sale securities and is presented in the accompanying consolidated statement of stockholders' equity (deficit).

Reclassifications — Certain reclassifications have been made to prior years' financial statements to conform with current year presentations. Previously, we presented sales and marketing expenses separately from general and administrative expenses. These expenses were combined into selling, general and administrative expenses in 2009. In addition, in 2008 accretion of the restructuring liability was included with non-cash restructuring charges on the statement of cash flows, in 2009, the accretion was presented separately. The reclassifications had no effect on stockholders' deficit, net loss, or net decrease in cash and cash equivalents.

Change in Accounting Principle — In 2008, the FASB issued accounting guidance with respect to "Determining Whether an Instrument (or Embedded Feature) Is Indexed to an Entity's Own Stock", which is effective for fiscal years beginning after December 15, 2008, with earlier application not permitted by entities that have previously adopted an alternative accounting policy. The adoption of this accounting guidance affects accounting for warrants with provisions that protect holders from declines in the stock price, in that, among other things, warrants with such provisions will no longer be recorded in equity, and applied to outstanding instruments as of the beginning of the fiscal year in which adopted. The cumulative effect of the change in accounting principle is to be recognized as an adjustment to the opening balance of retained earnings for the fiscal year of adoption, presented separately, based on amounts that would have been recognized if the guidance had been applied from the issuance date of the instrument. In connection with warrants we issued in April 2008, the financial reporting effect of initial adoption of this accounting requirement resulted in our recording a fair value liability for price adjustable warrants of approximately $0.9 million and an increase in stockholders' deficit as of January 1, 2009. The fair value liability is revalued each balance sheet date utilizing Black-Scholes-Merton valuation model computations with the decrease or increase in fair value being reported in the statement of operations as other income or expense, respectively.

Recent Accounting Pronouncements — In 2009, accounting guidance was issued, which establishes standards for accounting for certain revenue arrangements that include multiple-deliverable revenue arrangements, which is effective prospectively for revenue arrangements entered into or materially modified in fiscal years beginning on or after June 15, 2010. The guidance will be effective for our fiscal year beginning January 1, 2011. We are in the process of determining the effects that adoption of the guidance will have on our financial statements.

In 2009, the FASB issued guidance to revise the approach to determine when a variable interest entity ("VIE") should be consolidated. The new consolidation model for VIEs considers whether the investor has the power to direct the activities that most significantly impact the VIE's economic performance and shares in the significant risks and rewards of the entity. The guidance on VIEs requires companies to continually reassess VIEs to determine if consolidation is appropriate and provide additional disclosures. This guidance will be applicable for us prospectively to future VIEs, if any.

Note 2 — Inventories

At December 31, 2008, the original cost of our inventories approximated $2.7 million, composed of $0.1 million of Nascobal® active pharmaceutical ingredient ("API") and materials, and $2.6 million of calcitonin-salmon API and materials for our generic nasal calcitonin-salmon. During 2008, uncertainties over our ability to launch our nasal calcitonin-salmon product caused us to reassess the recorded value of our inventory as to estimated realizable value, and as a result of such review, we recorded an inventory write-down charge of approximately $2.6 million to cost of goods sold.

In 2009, we entered into an Asset Purchase Agreement with Par Pharmaceutical Companies, Inc. ("Par") pursuant to which, among other things, Par acquired certain assets, including our inventories of our calcitonin-salmon API and materials for our generic nasal calcitonin-salmon product. For additional regarding this agreement, see Note 9: Intellectual Property and Contractual Agreements — Par Pharmaceutical.

Note 3 — Property and Equipment

Property and equipment at December 31, 2008 and 2009 are comprised of the following (in thousands):

	2008	2009
Furniture and fixtures	$ 997	$ 836
Machinery and equipment	6,623	5,097
Computer equipment and software	3,824	2,176
Leasehold improvements	4,810	4,233
	16,254	12,342
Less accumulated depreciation and amortization	8,410	7,773
Net property and equipment	$ 7,844	$ 4,569

At December 31, 2008, assets under capital leases, primarily equipment, approximated $13.2 million and accumulated amortization of assets under capital leases approximated $6.3 million. During 2009, the balance of approximately $5.1 million due under capital lease obligations was converted to a promissory note, which was subsequently paid in full in June 2009, and accordingly we no longer have assets under capital lease.

Note 4 — Accrued Restructuring and Assets Held For Sale

Since late 2007, we have restructured our operations to focus on our RNAi programs. As part of the restructuring, we have reduced our workforce from approximately 235 employees in late 2007 to approximately 45 full-time employees at December 31, 2009. We have also exited certain of our facilities and have taken other steps to reduce our cash expenditures. We have recorded restructuring charges related to employee termination costs, our facility consolidation and impairment of assets in accordance with our long-lived assets policy.

During 2008, we exited our facility at 3450 Monte Villa and recorded a restructuring liability, representing estimated future payments due under the lease and other costs and discounted using a credit-adjusted risk-free interest rate of 15%. As of December 31, 2009, we expect to incur approximately $0.3 million in accretion expense through the expiration of this lease in 2016.

In 2009, we entered into an amendment of our lease for the exited facility, which reduced our lease obligations by approximately $1.9 million, and we issued 1,500,000 shares of our common stock to the landlord. In addition, in 2009, the landlord leased approximately 37% of the exited facility, and in connection therewith, we entered into an amendment to our lease agreement which, among other things, terminated the lease with respect to this portion of the premises.

As a result of our restructuring, we evaluated our long-lived assets for possible impairment. At December 31, 2008, property and equipment having a net realizable value of approximately $0.5 million, net of estimated costs to sell, were held for sale. These assets were sold in 2009 and an additional loss on sale of assets of approximately $0.1 million was included in restructuring expense.

Accrued restructuring, and in particular those charges associated with exiting a facility, are subject to management's assumptions and estimates, as well as changes in facts and circumstances. In addition to the interest rate used, the assumptions as to estimated future payments significantly impact the accrual and actual results may differ from our estimates.

The components of restructuring expense are summarized as follows (in thousands):

	Year ended December 31,		Cumulative to December 31,
	2008	2009	2009
Employee severance and termination benefits (including stock-based compensation charges)	$3,986	$ —	$3,986
Property and equipment impairment	1,962	137	2,099
Facility related charges	2,015	318	2,333
Other restructuring charges	294	—	294
Total restructuring	$8,257	$455	$8,712

The following presents activity in accrued restructuring for each of the years ended December 31, 2008 and 2009 (in thousands):

	Employee Severance and Termination Benefits	Facility Related Charges	Other	Total
Balance, December 31, 2007	$ 151	$ —	$ —	$151
Accruals	3,119	2,946	294	6,359
Payments and other decreases	(2,921)	(632)	(294)	(3,847)
Accretion	—	37	—	37
Balance, December 31, 2008	349	2,351	—	2,700
Accruals	—	144	—	144
Payments and other decreases	(349)	(1,963)	—	(2,312)
Accretion	—	174	—	174
Balance, December 31, 2009	$ —	$ 706	$ —	$706

Note 5 — Capital Lease Obligations and Notes Payable

In January 2009, we entered into a Loan and Security Agreement (the "Loan Agreement") with General Electric Capital Corporation ("GECC") pursuant to which GECC converted the balance due under capital lease obligations, along with a lease termination fee and amounts payable for property taxes, to a promissory note in the amount of approximately $5.5 million at an interest rate of 12.3% per year. As a result of the capital lease termination and issuance of the note payable, we recorded a lease termination fee of approximately $0.2 million, which was presented as a component of gain on settlement of liabilities, net. The loan was paid in full in June 2009 and the Loan Agreement terminated. The Loan Agreement contained certain customary representations, warranties and covenants, including that we would not declare or pay dividends.

In December 2009 we entered into a Note and Warrant Purchase Agreement (the "Note Agreement"), pursuant to which we received $1 million cash and issued 12% secured promissory notes due February 1, 2010 in the aggregate principal amount of $1.0 million (the "Notes") and warrants to purchase up to 1,075,269 shares of our common stock. The warrants have an exercise price of $1.02 per share, which is subject to downward price adjustment, and are exercisable for five years. The Note Agreement contained certain customary representations, warranties and covenants, including that we would not declare or pay dividends. The Notes were collateralized by substantially all of our assets. In January 2010, we received net proceeds of approximately $4.9 million in a registered direct offering of 5,385,557 shares of common stock and 3,500,612 warrants. Subsequently, in January 2010, we paid the notes and accrued interest in full, the Note Agreement terminated, and the collateral was released.

In connection with the Note Agreement, we recorded debt issuance costs of approximately $0.1 million which are being amortized as interest and other expense over the term of the notes. In addition, we recorded a discount on notes payable of approximately $0.9 million which represents the fair value of the warrants issued in connection with the notes payable, as determined utilizing the Black-Scholes-Merton valuation model with assumptions of expected life of five years, volatility rate of 117%, risk-free interest rate of 2.5% and dividend rate of nil. The discount on notes payable is reported net of related notes payable and is being amortized as interest expense over the term of the notes. The estimated fair value of the warrants was recorded as an increase

in fair value liability for price adjustable warrants, which is revalued each balance sheet date. Notes payable and related discount at December 31, 2009 and activity during the year then ended are as follows (in thousands):

	Notes Payable	Discount	Notes Payable, net of Discount
Issuance of notes payable and warrants	$1,000	$(881)	$119
Amortization of discount to interest expense	—	198	198
Balance at December 31, 2009	$1,000	$(683)	$317

Note 6 — Stockholders' Equity

Preferred Stock — Our board of directors has the authority, without action by the stockholders, to designate and issue up to 100,000 shares of preferred stock in one or more series and to designate the rights, preferences and privileges of each series, any or all of which may be greater than the rights of our common stock. We have designated 90,000 shares as Series A Junior Participating Preferred, of which no shares are outstanding.

Stockholder Rights Plan — In 2000, our board of directors adopted a stockholder rights plan and declared a dividend of one preferred stock purchase right for each outstanding share of common stock. Each right entitles the holder, once the right becomes exercisable, to purchase from us one one-thousandth of a share of our Series A Junior Participating Preferred Stock, par value $.01 per share. We issued these rights in March 2000 to each stockholder of record on such date, and these rights attach to shares of common stock subsequently issued. The rights will cause substantial dilution to a person or group that attempts to acquire us on terms not approved by our board of directors and could, therefore, have the effect of delaying or preventing someone from taking control of us, even if a change of control were in the best interest of our stockholders.

Holders of our preferred share purchase rights are generally entitled to purchase from us one one-thousandth of a share of Series A preferred stock at a price of $50.00, subject to adjustment as provided in the Stockholder Rights Agreement. These preferred share purchase rights will generally be exercisable only if a person or group becomes the beneficial owner of 15 percent or more of our outstanding common stock or announces a tender offer for 15 percent or more of our outstanding common stock. Each holder of a preferred share purchase right, excluding an acquiring entity or any of its affiliates, will have the right to receive, upon exercise, shares of our common stock, or shares of stock of the acquiring entity, having a market value equal to two times the purchase price paid for one one-thousandth of a share of Series A preferred stock. In March 2010 we amended the Stockholder Rights Agreement to extend the expiration date of the preferred share purchase rights from March 17, 2010 to March 17, 2013, subject to shareholder approval. Initially, 10,000 Series A Junior Participating Preferred shares were authorized, which has been increased to 90,000 shares.

Common Stock — Holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of the holders of our common stock. Subject to the rights of the holders of any class of our capital stock having any preference or priority over our common stock, the holders of shares of our common stock are entitled to receive dividends that are declared by our board of directors out of legally available funds. In the event of our liquidation, dissolution or winding-up, the holders of common stock are entitled to share ratably in our net assets remaining after payment of liabilities, subject to prior rights of preferred stock, if any, then outstanding. Our common stock has no preemptive rights, conversion rights, redemption rights or sinking fund provisions, and there are no dividends in arrears or default. All shares of our common stock have equal distribution, liquidation and voting rights, and have no preferences or exchange rights.

Pursuant to a universal shelf registration statement filed with the SEC and declared effective by the SEC in 2008, we could issue up to $50.0 million of our common stock, preferred stock, debt securities, warrants to

purchase any of the foregoing securities and units comprised of any of the foregoing securities. We accessed our universal shelf registration statement in connection with our April 2008, June 2009 and January 2010 offerings of common stock and warrants and our December 2009 issuance of warrants.

In April 2008, we received net proceeds of approximately $7.3 million from an offering of units comprised of 4,590,277 shares of common stock together with warrants to purchase up to 5,967,361 shares of common stock at a price of $1.728 per unit.

In 2009, we issued to several of our vendors an aggregate of 1,364,285 shares of our common stock having an estimated fair value of approximately $0.4 million based on the closing market prices on the issue dates to settle amounts due to these vendors of approximately $0.6 million in total and, as a result we recorded a gain on settlement of liabilities of approximately $0.2 million.

In 2009, we entered into an amendment of our lease for 3450 Monte Villa which reduced our future lease obligation payments, and pursuant to which, among other things, we issued 1,500,000 shares of our common stock (the "Shares") to the landlord. The estimated fair value of the shares issued was approximately $0.4 million on the date of issuance and was recorded as an increase in common stock and additional paid-in capital and as a decrease to the previously recorded restructuring liability.

In 2009, we entered into an amendment of our agreement regarding severance obligations with our former Chief Scientific Officer, pursuant to which we paid a reduced sum of approximately $0.9 million on June 30, 2009, and issued 731,275 unregistered shares of our common stock having an estimated market value of approximately $0.2 million as of the agreement date, in full satisfaction of approximately $1.7 million in severance obligations which was included in accrued employee compensation and employee benefits at December 31, 2008. As a result, we recorded a gain on settlement of liabilities of approximately $0.7 million during 2009.

In June 2009, we received net proceeds of approximately $9.3 million from a private placement of 5,250,000 units at a price of $2.00 per unit, each unit comprised of one share of common stock and a warrant to purchase one share of common stock. The estimated fair value of warrants issued approximated $8.1 million, as determined utilizing the Black-Scholes-Merton valuation model with assumptions of expected life of 5.5 years, volatility rate of 113%, risk-free interest rate of 2.8% and dividend rate of nil. The estimated fair value of the warrants was recorded as an increase in fair value liability of price adjustable warrants, which such amount is revalued each balance sheet date, with the offset reducing common stock and additional paid-in capital.

In 2009, we issued 606,061 shares of our common stock to Ribotask ApS as consideration for an amendment of our Patent Assignment and License Agreement and recorded research and development expense of approximately $1 million, the estimated fair value upon issuance based on the closing market price.

In January 2010, we received net proceeds of approximately $4.9 million from an offering of 5,385,577 shares of common stock together with warrants to purchase up to 3,500,612 shares of common stock at a purchase price of $1.02125 per unit.

Warrants — In connection with offerings of our common stock and notes payable, we have issued warrants to purchase shares of our common stock. In April 2008, we issued warrants to purchase 4,590,277 shares exercisable for seven years with an exercise price of $2.376 per share, warrants to purchase 1,377,084 shares exercisable for a 90 day period with an exercise price of $2.17 per share (which expired in January 2009) and warrants to purchase 229,514 shares exercisable for five years with an exercise price of $2.376 per share. In June 2009, we issued 5,250,000 warrants exercisable for the five-year period beginning in December 2009 with an

exercise price of $2.38 per share. In December 2009, we issued warrants to purchase 1,075,269 shares exercisable for five years with an exercise price of $1.02 per share. In January 2010, we issued warrants to purchase 3,500,612 shares of common stock exercisable for five years with an exercise price of $1.00 per share.

The warrants provide that the exercise price of the warrant will be reduced in the event of subsequent financings at an effective price per share less than the exercise price of the warrants, subject to certain exceptions and limitations. The April 2008 warrants also require a corresponding adjustment of the number of shares of common stock that may be acquired such that the total consideration payable remains unchanged upon full exercise regardless of a downward adjustment in the exercise price. In connection with our June 2009 offering, we agreed to seek shareholder approval, at our next annual shareholders meeting, to amend the April 2008 warrant agreements to allow the warrants to be repriced below the $2.17 price floor upon dilutive issuances subsequent to such shareholder approval. The June 2009 offering was specifically excluded by the April 2008 warrant holders from triggering any potential anti-dilution provisions of the April 2008 warrants. In December 2009, in connection with the issuance of notes payable, we issued warrants to purchase 1,075,269 shares of common stock. The issuance of these warrants was a dilutive issuance and in accordance with the terms of the warrant agreements, the April 2008 warrants were repriced to $2.17 per share and warrants to purchase an additional 452,800 shares at $2.17 per share were issued, and the June 2009 warrants were repriced to $1.02 per share. The June 2009 warrants are subject to additional repricings upon future dilutive issuances. The December 2009 warrants are subject to additional repricings upon future dilutive issuances until December 31, 2010.

The following summarizes warrant activity during 2008 and 2009:

	Warrant Shares	Weighted Average Exercise Price
Warrants outstanding, January 1, 2008	144,430	$11.09
Warrants issued	6,196,875	2.33
Warrants expired	(144,430)	11.09
Warrants outstanding, December 31, 2008	6,196,875	2.33
Warrants issued	6,778,069	2.15
Warrants exercised	(50,000)	2.38
Warrants expired	(1,377,084)	2.17
Warrants outstanding, December 31, 2009	11,547,860	$ 1.54
Warrants expiring in 2013	196,555	
Warrants expiring in 2014	6,325,269	
Warrants expiring in 2015	5,026,036	

In January 2010, warrants issued in 2009, having an exercise price of $1.02 per share were exercised, pursuant to which we received cash proceeds of approximately $2.6 million and issued 2,500,000 shares of our common stock.

In January 2010, we issued warrants to purchase 3,500,612 shares of stock at $1.00 per share. The warrants are exercisable until January 19, 2015 and the warrants provide that the exercise price of the warrant will be reduced in the event of subsequent financings at an effective price per share less than the exercise price of the warrants, limited to a price floor of $0.94 per share. We also agreed to seek shareholder approval, at our next annual shareholders meeting, to remove the price floor of $0.94 per share. In addition, as a result of the January 2010 issuance of the warrants at $1.00 per share, 3,825,269 warrants previously outstanding that were issued in

June 2009 and December 2009 were repriced to $1.00 per share. Subsequent to the January 2010 exercises, issuances and repricings, warrants to purchase 12,548,742 shares of common stock are outstanding with a weighted average exercise price of $1.49 per share.

Stock Incentive Plans — At December 31, 2009, options to purchase up to 8,430,231 shares of our common stock were outstanding, unvested restricted stock awards for an aggregate of 22,019 shares of our common stock were outstanding and 245,278 shares were reserved for future grants or awards under our various stock incentive plans.

In 2008, our stockholders approved our 2008 Stock Incentive Plan, under which an aggregate of 4,500,000 shares of common stock are available for grant. In 2008, we granted options to purchase up to 1,099,963 shares of common stock to our Chief Executive Officer, outside of our stock-based incentive plans as an employment inducement grant. We also maintain a 2000 Nonqualified Stock Option Plan, a 2002 Stock Option Plan and a 2004 Stock Incentive Plan. Under our stock compensation plans, we are authorized to grant options to purchase shares of common stock to our employees, officers and directors and other persons who provide services to us. The options to be granted are designated as either incentive stock options or non-qualified stock options by our board of directors, which also has discretion as to the person to be granted options, the number of shares subject to the options and the terms of the option agreements. Only employees, including officers and part-time employees, may be granted incentive stock options. Under our 2004 and 2008 plans, we are authorized to grant awards of restricted stock, stock appreciation rights and performance shares, in addition to stock options. As of December 31, 2009, no stock appreciation rights or performance shares have been granted. Options granted under the plans generally have terms of ten years from the date of grant, and generally vest over three to five years. We generally issue new shares for option exercises unless treasury shares are available for issuance. We had no treasury shares as of December 31, 2009 and have no plans to purchase any in the next year, however, we may accept the surrender of vested restricted shares from employees to cover tax requirements at our discretion.

Stock-based Compensation — The following table summarizes stock-based compensation expense (in thousands):

	Years Ended December 31,	
	2008	2009
Research and development	$6,203	$ 163
Selling, general and administrative	2,342	1,649
Restructuring	867	—
Total	$9,412	$1,812

Compensation expense is recognized on a straight-line basis over the applicable vesting periods based on the fair value on the grant date. Certain option and share awards provide for accelerated vesting if there is a change in control (as defined in the applicable plan and certain employment agreements we have with key employees).

Stock Options — Option activity was as follows:

	Years Ended December 31,			
	2008		2009	
	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price
Outstanding at beginning of year	2,412,318	$13.26	6,189,331	$4.35
Granted	6,271,944	2.32	3,416,000	1.37
Exercised	—	—	(15,000)	2.14
Expired	(468,444)	9.52	(120,100)	11.28
Forfeited	(1,326,487)	2.88	(240,000)	1.49
Canceled	(700,000)	16.19	(800,000)	12.94
Outstanding at end of year	6,189,331	$ 4.35	8,430,231	$2.31
Exercisable at end of year	3,349,831	$ 6.26	4,424,735	$2.88

The following table summarizes additional information on our stock options outstanding at December 31, 2009:

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	Number Outstanding	Weighted-Average Remaining Contractual Life (Years)	Weighted-Average Exercise Price	Number Exercisable	Weighted-Average Exercise Price
$0.29 - $ 1.19	2,152,651	6.4	$ 0.95	1,401,443	$1.19
$1.27 - $ 1.46	1,936,333	8.7	1.40	464,537	1.28
$1.52 - $ 2.27	2,119,005	7.6	1.97	1,231,509	2.13
$2.35 - $ 5.19	1,904,995	8.1	3.46	1,009,999	3.85
$8.83 - $15.43	317,247	1.5	12.48	317,247	12.48
Totals	8,430,231	7.4	$ 2.31	4,424,735	$2.88
Exercisable at Dec. 31, 2009	4,424,735	6.0			

We use the Black-Scholes-Merton option pricing model to determine the fair value of our stock-based awards. The determination of the fair value of stock-based awards on the date of grant using an option-pricing model is affected by our stock price as well as by assumptions regarding a number of complex and subjective variables. These variables include the expected life of the award, expected stock price volatility over the term of the award, historical and projected exercise behaviors, risk-free interest rate and expected dividends. Staff Accounting Bulletins issued by the Securities and Exchange Commission provide for a simplified method for estimating expected term for "plain-vanilla" options, if a company met certain criteria. The mid-point between the vesting date and the expiration date is used as the expected term under this method. We have concluded that we meet the criteria to use the simplified method as we have had significant structural changes in our business such that our historical exercise data may no longer provide a reasonable basis upon which to estimate expected term. We estimate volatility of our common stock by using our stock price history to forecast stock price volatility. The risk-free interest rates used in the valuation model were based on U.S. Treasury issues with remaining terms similar to the expected term on the options. We do not anticipate paying any dividends in the foreseeable future and, therefore, use an expected dividend yield of nil. The per-share fair value of stock options

granted was approximately $0.80 and $0.94 in 2008 and 2009, respectively, which were estimated at the date of grant using the Black-Scholes-Merton option valuation model with the following weighted average assumptions for the periods presented as follows:

	2008	2009
Expected dividend yield	0%	0%
Risk free interest rate	3.5%	2.3%
Expected stock volatility	71%	105%
Expected option life	7.1 years	5.8 years

Stock-based compensation expense is recorded net of forfeitures which are based on historical experience. During 2008 and 2009, we recorded stock-based compensation expense related to stock options of approximately $6.4 million and $2.1 million, respectively.

As of December 31, 2009, we had approximately $2.2 million of total unrecognized compensation cost related to unvested stock options. Total unrecognized compensation cost will be adjusted for future changes in estimated forfeitures. We expect to recognize this cost over a weighted average period of approximately 1.5 years.

At December 31, 2009, the aggregate intrinsic value of options outstanding was approximately $0.3 million and the aggregate intrinsic value of options exercisable was nil. The intrinsic value of stock options is based on the $0.81 closing market price of our common stock and is calculated by aggregating the difference between the closing market price and the exercise price of the options. No options were exercised during 2008 and 15,000 options were exercised during 2009. The total intrinsic value of options exercised in 2009 was not material. The total fair value of options that vested during 2008 and 2009 was approximately $6.0 million and $1.9 million, respectively.

In 2008, in connection with our annual shareholders meeting, five members of our board of directors retired. Our board of directors approved a resolution to extend the amount of time the retiring directors have to exercise their vested options from 90 days to two years. Additional compensation expense recognized as a result of the modification was not material. Our 2008 workforce reduction included three executives from our intranasal programs. In accordance with terms of their employment agreements, vesting of their outstanding unvested options was accelerated, and the related stock-based compensation expense of approximately $0.4 million was included in restructuring expense.

In 2008, we announced the termination of employment of our Chief Scientific Officer. In connection with the termination, 42,000 remaining unvested restricted shares became fully vested and unvested options to purchase 1,700,000 shares of common stock at a weighted average exercise price of approximately $2.84 per share that had been previously granted pursuant to his employment agreement became fully vested and exercisable. In connection with the termination, we recognized approximately $2.5 million in stock-based compensation, which was recorded in research and development expense in 2008. In 2008, the former executive surrendered, without consideration, for cancellation, options to purchase 600,000 shares of common stock at an exercise price of $14.72 per share and options to purchase 100,000 shares of common stock at an exercise price of $25.00 per share. In 2009, the former executive also surrendered, without consideration, for cancellation, options to purchase 800,000 shares of common stock at an exercise price of $12.94 per share.

In 2009, in connection with our annual shareholders meeting, three members of our board of directors retired. Our board of directors approved a resolution to extend the amount of time two of the retiring directors

have to exercise their vested options from 90 days to two years. Additional compensation expense recognized as a result of the modification was approximately $0.1 million. The third retiring director's options were governed by his employment contract at his employment termination date. In 2009, six employees were terminated and received accelerated vesting of their stock options and additional time to exercise their options, which resulted in recognition of additional compensation expense of approximately $0.8 million.

Non-Employee Option Grants — In 2008 and 2009 we granted stock options to non-employee members of our Scientific Advisory Board. Non-employee option grants are recorded as expense over the vesting period of the underlying stock options. At the end of each financial reporting period prior to vesting, the value of these options, as calculated using the Black-Scholes-Merton option pricing model, is re-measured using the fair value of our common stock and the stock-based compensation recognized during the period is adjusted accordingly. Since the fair value of options granted to non-employees is subject to change in the future, the amount of future compensation expense will include fair value re-measurements until the stock options are fully vested. We recognized expense of approximately $0.1 million and $47,000 in 2008 and 2009, respectively, relating to options granted to non-employee members of our Scientific Advisory Board.

Restricted Stock Awards — Pursuant to restricted stock awards granted under our 2004 Plan, we have issued shares of restricted stock to certain employees and members of our board of directors. No restricted stock awards have been granted under our 2008 Plan. Stock-based compensation expense is being recognized on a straight-line basis over the applicable vesting periods of one to four years of the restricted shares based on the fair value of such restricted stock on the grant date. Additional information on restricted shares is as follows:

	Years Ended December 31,	
	2008	2009
Unvested restricted shares outstanding, beginning of year	610,092	106,763
Restricted shares issued	66,429	—
Restricted shares forfeited	(240,271)	(13,573)
Restricted shares vested	(329,487)	(71,171)
Unvested restricted shares outstanding, end of year	106,763	22,019
Weighted average grant date fair value per share	$ 8.79	$ 8.63

We recorded stock-based compensation expense related to the amortization of restricted stock grants of approximately $2.9 million in 2008 and we recorded a benefit of approximately $0.3 million in 2009 due to forfeitures. The fair value of restricted stock vested in 2008 and 2009 was approximately $4.2 million and $0.6 million, respectively.

Our total unrecognized compensation cost related to unvested restricted stock awards granted was approximately $0.1 million at December 31, 2009. Total unrecognized compensation cost will be adjusted for future changes in estimated forfeitures. We expect to recognize this cost over a weighted average period of approximately 0.7 years.

In 2008, in connection with our annual shareholders meeting, five members of our board of directors retired. Our board of directors approved a resolution to accelerate the vesting of approximately 21,320 restricted shares which would have vested for the retiring directors over the next one or two years. Additional compensation expense recognized as a result of the modification was not material. Our 2008 workforce reduction included three executives from our intranasal programs. In accordance with the terms of their employment agreements, vesting of all of their outstanding unvested restricted stock awards was accelerated and the related stock-based compensation expense of approximately $0.5 million was included in restructuring expense.

In May 2009, in connection with our annual shareholders meeting, three members of our board of directors retired. Our board of directors approved a resolution to accelerate the vesting of approximately 10,000 restricted shares which would have vested for retiring directors over the next one or two years; the net effect on compensation expense as a result of the modifications was not material. In 2009, six terminated employees received accelerated vesting of their outstanding unvested restricted shares; the net effect on compensation expense as a result of the modifications was not material.

Employee Stock Purchase Plan — In 2007, our shareholders approved the adoption of our Employee Stock Purchase Plan ("ESPP"). A total of 300,000 shares of common stock were reserved for issuance under our ESPP. Under the terms of our ESPP, a participant may purchase shares of our common stock at a price equal to the lesser of 85% of the fair market value on the date of offering or on the date of purchase. An aggregate of 74,591 and 59,858 shares were issued under the ESPP during 2008 and 2009, respectively. We recorded stock-based compensation expense related to our ESPP of approximately $107,000 and $54,000 in the years ended December 31, 2008 and 2009, respectively, based on employee contributions and a per share fair value of $2.62 and $0.52, for 2008 and 2009, which were estimated using the following weighted average variables:

	Years Ended December 31,	
	2008	2009
Expected dividend yield	0%	0%
Risk free interest rate	3.2%	0.5%
Expected volatility	91%	185%
Expected term	0.5 years	0.5 years

Note 7 — Employee Benefit Plan

We have a 401(k) plan for employees meeting eligibility requirements. Eligible employees may contribute up to 100% of their eligible compensation, subject to IRS limitations. Our contributions to the plan are discretionary as determined by our board of directors. Effective January 1, 2004, we implemented a matching program. During 2009, we suspended the matching program; previously we matched employee contributions up to 6% of compensation at 25 cents for each dollar contributed by the employee. Employer contributions were approximately $116,000 and $3,000 in the years ended December 31, 2008 and 2009, respectively.

Note 8 — Income Taxes

Our net deferred tax assets as of December 31, 2008 and 2009 are as follows (in thousands):

	Years Ended December 31,	
	2008	2009
Deferred tax assets:		
Net operating loss carryforwards	$ 79,184	$ 86,346
Tax credit carryforwards	8,876	9,363
Depreciation & amortization	4,507	2,625
Accrued liabilities	2,329	1,158
Other	4,385	1,762
Total deferred tax assets	99,281	101,254
Valuation allowance	(99,281)	(101,254)
Net deferred taxes	$ —	$ —

We continue to record a valuation allowance in the full amount of deferred tax assets since realization of such tax benefits has not been determined by our management to be more likely than not. The valuation allowance increased approximately $21.7 million and $2.0 million during 2008 and 2009, respectively. As a result of the valuation allowance, there were no tax benefits or expenses recorded in the accompanying consolidated statements of operations for the years ended December 31, 2008 or 2009.

At December 31, 2009, we had available net operating loss carryforwards for federal and state income tax reporting purposes of approximately $239.5 million and $50.0 million, respectively, and had available tax credits of approximately $9.4 million, which are available to offset future taxable income. A portion of these carryforwards will expire in 2010 and will continue to expire through 2028 if not otherwise utilized. Our ability to use such net operating losses and tax credit carryforwards is subject to annual limitations due to change of control provisions under Sections 382 and 383 of the Internal Revenue Code, and such limitation would be significant.

Employee stock options exercised during 2009 that resulted in income tax deductions for us were not significant in amount. There were no employee stock options exercised during 2008. During 2008 and 2009, income tax deductions related to restricted stock approximated $0.4 million and negative $0.4 million (due to forfeitures), respectively. Tax benefits in excess of stock-based compensation expense recorded for financial reporting purposes relating to such stock options and restricted stock will be credited to additional paid-in capital in the period the related tax deductions are realized.

The difference between the expected benefit computed using the statutory tax rate and the recorded benefit of zero is primarily due to the change in the valuation allowance.

Note 9 — Intellectual Property and Contractual Agreements

RNAi-related

Roche — In February 2009, we entered into an agreement with Hoffman-La Roche Inc., a New Jersey corporation, and F. Hoffmann-La Roche Ltd., a Swiss corporation (collectively, "Roche"), pursuant to which we granted to Roche a worldwide, non-exclusive license to a portion of our technology platform, for the development of RNAi-based therapeutics, in consideration of a one-time non-refundable licensing fee of $5 million, which was recognized as license fee revenue in 2009.

Novartis — In March 2009, we entered into an agreement with Novartis Institutes for BioMedical Research, Inc. ("Novartis"), pursuant to which we granted to Novartis a worldwide, non-exclusive license to our DiLA^2-based siRNA delivery platform in consideration of a one-time, non-refundable fee of $7.25 million, which was recognized as license fee revenue in 2009. Additionally, we entered into a separate agreement with Novartis to provide them with an exclusive period in which to negotiate a potential research and development collaboration as well as possible broader licensing rights related to our RNAi drug delivery platform. This exclusive period expired in 2009. Approximately $0.3 million was recognized as license fee revenue in 2009 under this separate agreement.

University of Michigan — In May 2008, we entered into an exclusive license agreement to IP from the University of Michigan covering cationic peptides for enhanced delivery of nucleic acids. These peptides have unique characteristics that we believe play an important role in improving the efficacy of delivery of RNAi-based therapeutics. We are currently using these peptides to create siRNA nanoparticles to enhance mRNA knockdown. Together with the DiLA^2 Platform of novel delivery liposomes, these delivery peptides may improve the therapeutic potential of our drug candidates. We sublicensed this IP to Novartis on a nonexclusive basis in 2009.

University of Helsinki — In June 2008, we entered into a collaboration agreement with Dr. Pirjo Laakkonen and the Biomedicum. The goal of the work involves our patented phage display library, the Trp Cage library, for the identification of peptides to target particular tissues or organs for a given disease. In December 2009, we received a patent allowance in the US covering a targeting peptide for preferential delivery to lung tissues that was identified by MDRNA using the Trp Cage Library. We believe Trp Cage will identify additional peptides for evaluation in our delivery programs, and we will have a strong IP position for these peptides and their use.

Ribotask ApS. — In October 2008, we acquired the intellectual property related to Unlocked Nucleobase Analogs ("UNA") from Ribotask ApS, a privately held Danish company specializing in the development and synthesis of novel RNA chemistries. This technology permits us to stabilize and provide drug-like properties to UsiRNAs in a novel and proprietary manner. This includes protection from enzymatic destruction and reduction, or elimination, of a cytokine response, two primary limitations for therapeutic application of siRNA; yet the appropriate substitution of UNA preserves high efficacy. These attributes have the potential for effective protein down regulation with lower total doses of siRNA while improving the safety profile. In 2009, we issued 606,061 shares of our common stock to Ribotask ApS and agreed to certain payments in consideration of an amendment to eliminate all downstream financial consideration to Ribotask resulting from collaborations established between us and potential pharmaceutical and biotechnology partners. The estimated market value of the common stock of approximately $1.0 million was recorded as research and development expense in 2009.

University of British Columbia. In November 2009, we expanded and extended a previous agreement established in 2008 with University of British Columbia/Vancouver Prostate Centre (VPC) in the area of bladder cancer. The VPC is a National Centre for Excellence for translational research and this agreement provides us access to cutting-edge bladder cancer models and evaluation techniques and interactions with world-renowned researchers and clinicians. Data derived from studies conducted under this agreement have already demonstrated the potency of UsiRNAs and DiLA^2-based delivery for inhibition of target mRNA and reduction in tumor growth. The focus of the expanded agreement will be the evaluation of additional critical targets in bladder cancer and the therapeutic impact on tumor biology and growth.

Galenea — In February 2006, in connection with our RNAi therapeutics program targeting influenza and other respiratory diseases, we acquired RNAi IP and other RNAi technologies from Galenea Corporation ("Galenea"). The IP acquired from Galenea includes patent applications licensed from the Massachusetts Institute of Technology ("MIT") that have early priority dates in the antiviral RNAi field focused on viral respiratory infections, including influenza, rhinovirus, and other respiratory diseases. We also acquired Galenea's research and IP relating to pulmonary drug delivery technologies for siRNA. Additionally, we assumed Galenea's awarded and pending grant applications from the National Institute of Allergy and Infectious Diseases, a division of the National Institutes of Health ("NIH"), and the Department of Defense to support the development of RNAi-based antiviral drugs. Consideration for the acquisition consisted of an upfront payment and could include contingent payments based upon certain regulatory filings and approvals, and the sale of products. The agreements with Galenea and MIT were terminated in 2009.

Government Grants — In 2006, the NIH awarded us a $1.9 million grant over a five year period to prevent and treat influenza. In 2009 we terminated the grant. Revenue recognized under this grant totaled approximately $0.3 million for the year ended December 31, 2008 and $19,000 for the year ended December 31, 2009.

City of Hope — In 2006, we entered into a license with the Beckman Research Institute/City of Hope for exclusive and non-exclusive licenses to the Dicer-substrate RNAi IP developed there. In 2009, we terminated our license agreement with the City of Hope for technology and intellectual property related to Dicer substrates to focus on the development of UsiRNA and meroduplex constructs.

Intranasal related

Amylin Pharmaceuticals, Inc. — In 2009 we received a milestone payment, in the amount of $1.0 million, which was recognized as license fee revenue, from Amylin Pharmaceuticals, Inc. ("Amylin") under our 2006 Development and License Agreement, as amended, for the development of intranasal exenatide (the "License Agreement"). The License Agreement was amended in 2009 to provide for the accelerated $1.0 million milestone payment, and to adjust the aggregate amount of milestone and royalty payments that could be due to us from $89 million to $80 million. We are no longer responsible for any further development of the nasal spray formulation of intranasal exenatide or its manufacture.

Par Pharmaceutical — In 2009 we entered into an Asset Purchase Agreement with Par Pharmaceutical ("Par") pursuant to which, among other things, a 2004 License and Supply Agreement with Par, and a 2005 Supply Agreement with QOL Medical LLC, were terminated. Under the Asset Purchase Agreement, Par acquired certain assets pertaining to calcitonin, including our ANDA for generic calcitonin-salmon nasal spray, inventories, tooling and equipment, and the related technology, trade secrets, know-how, proprietary information and other intellectual property rights, and assumed certain contracts, including our manufacturing obligation to QOL Medical as well as our two building leases related to our operations in Hauppauge, New York. We received $0.8 million in cash and are entitled to receive earn-out payments for five years based on commercial sales of calcitonin. Calcitonin received full FDA approval and was launched in June 2009. We recognized a gain of approximately $0.1 million on the asset sale to Par which is included as an offset to research and development expense in 2009. In addition, in 2009 we recognized approximately $0.1 million in revenue relating to earn-out payments based on commercial sales of calcitonin and approximately $0.1 million in revenue for services provided under the Asset Purchase Agreement.

Thiakis Limited ("Thiakis") — In 2004, we acquired exclusive worldwide rights to the Imperial College Innovations and Oregon Health & Science University PYY patent applications in the field of nasal delivery of PYY and the use of glucagon-like peptide-1 (GLP-1) used in conjunction with PYY for the treatment of obesity, diabetes and other metabolic conditions. We recorded $1.2 million in research and development expense in 2008 related to the estimated obligations under this license agreement at December 31, 2008. In April 2009 we entered into a Deed of Release and termination pursuant to which we agreed to pay $1.1 million, payable in quarterly amounts commencing April 2009 and ending April 2010. The difference between $1.1 million and the amount originally estimated was recorded as reduction of expense in 2009. The balance remaining at December 31, 2009 was $0.5 million.

Other

QOL Medical LLC — In October 2005, we entered into a supply agreement with QOL (the "QOL Agreement") under which, subject to certain limitations, we are obligated to manufacture and supply, and QOL is obligated to purchase from us, all of QOL's requirements for Nascobal® brand products for vitamin B12 (cyanocobalamin) deficiency in patients with pernicious anemia, Crohn's Disease, HIV/ AIDS and multiple sclerosis. Under the terms of the QOL Agreement we received a $2.0 million upfront fee, which was being recognized ratably over the five-year life of the QOL Agreement. In connection with the Asset Purchase Agreement with Par Pharmaceutical which we entered into in March 2009, the QOL Agreement was terminated. We recognized approximately $0.7 million in deferred revenue related to the Supply Agreement in 2009 and approximately $0.1 million in product revenue related to a cancellation fee for cancellation of a planned production batch.

Note 10 — Commitments and Contingencies

Standby Letter of Credit — At December 31, 2008, we had a letter of credit with our bank, pursuant to which standby letters of credit in the total amount of approximately $2.2 million had been issued to the landlords

of our Bothell, Washington facilities. In March 2009, we entered into an amendment of our lease for 3450 Monte Villa, which among other things, released to the landlord restricted cash under the letter of credit in the amount of approximately $1.0 million and terminated the $1.0 million standby letter of credit with respect to that facility. During December 2009, the landlord for 3830 Monte Villa Parkway drew $0.2 million on the $1.2 million standby letter of credit for that facility, which also resulted in a $0.2 million draw on our restricted cash, and as of December 31, 2009, approximately $1.0 million was outstanding on the remaining standby letter of credit. In February 2010, the standby letter of credit was increased to $1.2 million and we transferred cash from our unrestricted cash to increase the restricted cash balance to $1.2 million.

Leases — We lease space for our research and development and corporate offices in Bothell, Washington under operating leases expiring in 2016. In connection with the terms of our lease of our Bothell, Washington facility at 3830 Monte Villa Parkway, we have provided our landlord with a stand-by letter of credit.

In March 2009, we entered into an amendment of our lease for 3450 Monte Villa, pursuant to which we have no lease payment obligations until July 2010, which reduced our lease obligations by approximately $1.9 million until July 2010. Under terms of the amendment, we released both a cash deposit of approximately $0.3 million and restricted cash under a letter of credit of approximately $1.0 million to the landlord and issued 1,500,000 shares of our common stock to the landlord. In addition, in 2009 the landlord leased approximately 37% of the exited facility, and in connection therewith, we entered into an amendment to our lease agreement which, among other things, terminated the lease with respect to this portion of the premises.

Until March 2009, we had facilities for manufacturing, warehousing and research and development activities in Hauppauge, New York under operating leases expiring in June 2010. In March 2009 we entered into an Asset Purchase Agreement with Par under which Par assumed full responsibility for all future operating costs and leases associated with the Hauppauge facilities.

Rent expense was approximately $2.5 million in 2008 and $1.3 million in 2009. In addition, approximately $0.5 million and $0.2 million in rental payments decreased the restructuring liability during 2008 and 2009, respectively.

The following summarizes future annual minimum lease payments under operating leases as of December 31, 2009 (in thousands):

	Exited Facility 3450 Monte Villa	Occupied Facility 3830 Monte Villa	Total
2010	$ 637	$1,262	$ 1,899
2011	1,301	1,325	2,626
2012	1,334	1,384	2,718
2013	1,367	1,442	2,809
2014	1,401	1,501	2,902
Thereafter	1,558	1,853	3,411
Total	$7,598	$8,767	$16,365

Contingencies — We are subject to various legal proceedings and claims that arise in the ordinary course of business. Our management currently believes that resolution of such legal matters will not have a material adverse impact on our consolidated financial position, results of operations or cash flows.

Note 11 — Subsequent Events

In January 2010 warrants priced at $1.02 per share were exercised resulting in cash proceeds of approximately $2.6 million and the issuance of 2,500,000 million shares of our common stock.

As further described in Note 6, in January 2010, we received net proceeds of approximately $4.9 million in an offering of 5,385,577 shares of common stock together with warrants to purchase up to 3,500,612 shares of common stock at a purchase price of approximately $1.02 per unit. The warrants are exercisable for five years and have an exercise price of $1.00 per share, which is subject to downward price adjustment. As a result of the issuance of warrants with an exercise price of $1.00 per share, 3,825,269 warrants previously outstanding that were issued in June 2009 and December 2009 were repriced to $1.00 per share.

As further described in Note 5, we paid our notes payable and accrued interest thereon in full in January 2010 and the related collateral interests on our assets and intellectual property were subsequently released.

On March 22, 2010, we received a letter from The Nasdaq Stock Market, LLC ("Nasdaq") notifying us that we have regained compliance with Nasdaq Marketplace Rule 5450(b)(2)(A) which requires, among other things, a minimum market value of listed securities of $50 million. As required to regain compliance, the market value of our common stock was $50 million or greater for each of the ten consecutive trading days from March 8, 2010 to March 19, 2010. Accordingly, the matter is now closed.

On March 23, 2010, we acquired intellectual property related to bridged nucleic acids from Valeant Pharmaceuticals North America in consideration of payment of a non-refundable licensing fee due in equal portions in April and July 2010.

ITEM 9. ***Changes in and Disagreements With Accountants on Accounting and Financial Disclosure.***

Not applicable.

ITEM 9A(T). ***Controls and Procedures.***

(a) *Disclosure Controls and Procedures.* As of the end of the period covered by this Annual Report on Form 10-K, we carried out an evaluation, under the supervision and with the participation of senior management, including our Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), of the effectiveness of the design and operation of our disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Based upon that evaluation, our CEO and CFO concluded that our disclosure controls and procedures were effective in recording, processing, summarizing and reporting, on a timely basis, information required to be disclosed by us in the reports that we file or submit under the Exchange Act.

(b) *Internal Control over Financial Reporting.* There have been no changes in our internal controls over financial reporting or in other factors during the fourth fiscal quarter ended December 31, 2009 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting subsequent to the date we carried out our most recent evaluation.

(c) *Management Report on Internal Control.* Management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act, is a process designed by, or under the supervision of, our CEO and CFO, or persons performing similar functions, and effected by our Board, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Our management, with the participation of our CEO and CFO, has established and maintained policies and procedures designed to maintain the adequacy of our internal control over financial reporting, and include those policies and procedures that:

1) Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of our assets;

2) Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and

3) Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

Management has evaluated the effectiveness of our internal control over financial reporting as of December 31, 2009 based on the control criteria established in a report entitled *Internal Control — Integrated Framework*, issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Based on our assessment and those criteria, our management has concluded that our internal control over financial reporting is effective as of December 31, 2009.

This annual report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by our registered public accounting firm pursuant to temporary rules of the Securities and Exchange Commission that permit us to provide only management's report in this annual report.

(d) Because of its inherent limitations, internal control over financial reporting may not prevent or detect all errors or misstatements and all fraud. Therefore, even those systems determined to be effective can provide only reasonable, not absolute, assurance that the objectives of the policies and procedures are met. Also, projections of

any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

ITEM 9B. ***Other Information.***

None.

PART III

ITEM 10. ***Directors, Executive Officers and Corporate Governance.***

The information required by this Item is incorporated by reference to our Definitive Proxy Statement prepared in connection with our 2010 Annual Meeting of Stockholders to be filed not later than 120 days after the end of our 2009 fiscal year.

ITEM 11. ***Executive Compensation.***

The information required by this Item is incorporated by reference to our Definitive Proxy Statement prepared in connection with our 2010 Annual Meeting of Stockholders to be filed not later than 120 days after the end of our 2009 fiscal year.

ITEM 12. ***Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.***

The information required by this Item is incorporated by reference to our Definitive Proxy Statement prepared in connection with our 2010 Annual Meeting of Stockholders to be filed not later than 120 days after the end of our 2009 fiscal year.

ITEM 13. ***Certain Relationships and Related Transactions, and Director Independence.***

The information required by this Item is incorporated by reference to our Definitive Proxy Statement prepared in connection with our 2010 Annual Meeting of Stockholders to be filed not later than 120 days after the end of our 2009 fiscal year.

ITEM 14. ***Principal Accounting Fees and Services.***

The information required by this Item is incorporated by reference to our Definitive Proxy Statement prepared in connection with our 2010 Annual Meeting of Stockholders to be filed not later than 120 days after the end of our 2009 fiscal year.

PART IV

ITEM 15. ***Exhibits, Financial Statement Schedules.***

(a)(1) *Financial Statements and Financial Statement Schedule*

The financial statements listed in the Index to Financial Statements are filed as part of this Form 10-K.

(a)(3) *Exhibits*

The exhibits required by this item are set forth on the Exhibit Index attached hereto.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Bothell, State of Washington, on March 23, 2010.

MDRNA, INC.

By: /s/ J. Michael French
J. Michael French
Director, President and
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the Registrant and in the capacities indicated on March 23, 2010.

Signature	Title
/s/ J. MICHAEL FRENCH J. Michael French	Director, President and Chief Executive Officer (Principal Executive Officer)
/s/ PETER S. GARCIA Peter S. Garcia	Secretary and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)
/s/ JAMES M. KARIS James M. Karis	Director
/s/ DANIEL L. PETERS Daniel L. Peters	Director
/s/ JAMES ROTHMAN, PH.D. James Rothman, Ph.D.	Director
/s/ GREGORY SESSLER Gregory Sessler	Director
/s/ BRUCE R. THAW Bruce R. Thaw	Director

EXHIBIT INDEX

Exhibit No.	Description
2.1	Agreement and Plan of Reorganization, dated August 8, 2000, among the Registrant, Atossa Acquisition Corporation, a Delaware corporation and our wholly-owned subsidiary, and Atossa HealthCare, Inc. (filed as Exhibit 2.1 to our Current Report on Form 8-K dated August 8, 2000, and incorporated herein by reference).
2.2	Asset Purchase Agreement, dated September 30, 2002, between the Registrant and Schwarz Pharma, Inc. (filed as Exhibit 2.1 to our Current Report on Form 8-K dated September 30, 2002, and incorporated herein by reference).
3.1	Restated Certificate of Incorporation of the Registrant dated July 20, 2005 (filed as Exhibit 3.1 to our Current Report on Form 8-K dated July 20, 2005, and incorporated herein by reference).
3.2	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of the Registrant, dated June 10, 2008 (filed as Exhibit 3.1 to our Current Report on Form 8-K dated June 10, 2008, and incorporated herein by reference).
3.3	Amended and Restated Bylaws of the Registrant dated September 19, 2007 (filed as Exhibit 3.1 to our Current Report on Form 8-K dated September 19, 2007, and incorporated herein by reference).
3.4	Certificate of Designation, Rights and Preferences of Series A Junior Participating Preferred Stock dated January 17, 2007 (filed as Exhibit 3.1 to our Current Report on Form 8-K dated January 19, 2007, and incorporated herein by reference).
3.5	Amended Designation, Rights, and Preferences of Series A Junior Participating Preferred Stock, dated June 10, 2008 (filed as Exhibit 3.2 to our Current Report on Form 8-K dated June 10, 2008, and incorporated herein by reference).
4.1	Rights Agreement, dated February 22, 2000, between the Registrant and American Stock Transfer & Trust Company as Rights Agent (filed as Exhibit 1 to our Current Report on Form 8-K dated February 22, 2000, and incorporated herein by reference).
4.2	Amendment No. 1 to Rights Agreement dated as of January 17, 2007 by and between the Registrant and American Stock Transfer and Trust Company (filed as Exhibit 4.1 to our Current Report on Form 8-K dated January 19, 2007, and incorporated herein by reference).
4.3	Amendment No. 2 to Rights Agreement dated as of March 17, 2010 by and between the Registrant and American Stock Transfer and Trust Company (filed as Exhibit 4.1 to our Current Report on Form 8-K dated March 5, 2010, and incorporated herein by reference).
4.4	Form of Amended and Restated Common Stock Purchase Warrant originally issued by the Registrant in April 2008 (filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q for the quarter ended June 30, 2009, and incorporated herein by reference).
4.5	Form of Common Stock Purchase Warrant issued by the Registrant in June 2009 (filed as Exhibit 10.3 to our Current Report on Form 8-K dated June 10, 2009, and incorporated herein by reference).
4.6	Form of 12% Secured Promissory Note issued by the Registrant in December 2009 (filed as Exhibit 4.1 to our Current Report on Form 8-K dated December 22, 2009, and incorporated herein by reference).
4.7	Form of Common Stock Purchase Warrant issued by the Registrant in December 2009 (filed as Exhibit 4.2 to our Current Report on Form 8-K dated December 22, 2009, and incorporated herein by reference).
4.8	Form of Common Stock Purchase Warrant issued by the Registrant in January 2010 (filed as Exhibit 4.1 to our Current Report on Form 8-K dated January 13, 2010, and incorporated herein by reference).
10.1	Lease Agreement, dated April 23, 2002, with Phase 3 Science Center LLC, Ahwatukee Hills Investors LLC and J. Alexander's LLC (filed as Exhibit 10.26 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2002, and incorporated herein by reference).

Exhibit No.	Description
10.2	First Amendment dated June 17, 2003, to Lease Agreement dated April 23, 2002, with Phase 3 Science Center LLC, Ahwatukee Hills Investors LLC and J. Alexander's LLC (filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q for the quarter ended June 30, 2003, and incorporated herein by reference).
10.3	Second Amendment, dated February 4, 2004, to Lease Agreement dated April 23, 2002, with Phase 3 Science Center LLC, Ahwatukee Hills Investors LLC and J. Alexander's LLC (filed as Exhibit 10.24 to our Annual Report on Form 10-K for the year ended December 31, 2003, and incorporated herein by reference).
10.4	Third Amendment, dated as of March 5, 2009, to Lease Agreement dated April 23, 2002, with BMR-3450 Monte Villa Parkway LLC (as successor-in-interest to Phase 3 Science Center LLC) (filed as Exhibit 10.1 to our Current Report on Form 8-K dated March 5, 2009, and incorporated herein by reference).
10.5	Fourth Amendment, dated as of July 27, 2009, to Lease Agreement dated April 23, 2002, with BMR-3450 Monte Villa Parkway LLC (as successor-in-interest to Phase 3 Science Center LLC) (filed as Exhibit 10.3 to our Quarterly Report on Form 10-Q for the quarter ended June 30, 2009, and incorporated herein by reference).
10.6	Stock Purchase Agreement, dated as of March 5, 2009, between the Registrant and BioMed Realty, L.P. (filed as Exhibit 10.2 to our Current Report on Form 8-K dated March 5, 2009, and incorporated herein by reference).
10.7	Lease Agreement with Ditty Properties Limited Partnership for facilities at 3830 Monte Villa Parkway, Bothell, WA, effective as of March 1, 2006 (filed as Exhibit 10.1 to Amendment No. 1 to our Current Report on Form 8-K/A dated March 1, 2006 and filed on July 26, 2006, and incorporated herein by reference).(1)
10.8	First Amendment to Lease Agreement with Ditty Properties Limited Partnership for facilities at 3830 Monte Villa Parkway, Bothell, WA, effective as of July 17, 2006 (filed as Exhibit 10.7 to our Quarterly Report on Form 10-Q for the quarter ended June 30, 2006, and incorporated herein by reference).
10.9	Amended and Restated Employment Agreement dated June 10, 2008 by and between the Registrant and Steven C. Quay, M.D., Ph.D. (filed as Exhibit 10.1 to our Current Report on Form 8-K dated June 10, 2008, and incorporated herein by reference).**
10.10	Amendment, Acknowledgement and Release, effective as of March 20, 2009, between the Registrant and Steven C. Quay, M.D., Ph.D. (filed as Exhibit 10.1 to our Current Report on Form 8-K dated March 16, 2009, and incorporated herein by reference).**
10.11	Employment Agreement effective as of March 7, 2008 by and between the Registrant and Bruce R. York (filed as Exhibit 10.1 to our Current Report on Form 8-K dated March 10, 2008, and incorporated herein by reference).**
10.12	Amendment No. 1, dated July 13, 2009, to the Employment Agreement between the Registrant and Bruce R. York (filed as Exhibit 10.2 to our Current Report on Form 8-K dated July 13, 2009, and incorporated herein by reference).**
10.13	Employment Agreement effective as of June 23, 2008 by and between the Registrant and J. Michael French (filed as Exhibit 10.2 to our Current Report on Form 8-K dated June 10, 2008, and incorporated herein by reference).**
10.14	Employment Agreement effective as of January 2, 2009 by and between the Registrant and Barry Polisky (filed as Exhibit 10.1 to our Current Report on Form 8-K dated October 27, 2008, and incorporated herein by reference).**
10.15	Employment Agreement effective as of July 13, 2009 by and between the Registrant and Peter S. Garcia (filed as Exhibit 10.1 to our Current Report on Form 8-K dated July 13, 2009, and incorporated herein by reference).**

Exhibit No.	Description
10.16	The Registrant's 1990 Stock Option Plan (filed as Exhibit 4.2 to our Registration Statement on Form S-8, File No. 333-28785, and incorporated herein by reference).**
10.17	The Registrant's Amended and Restated 2000 Nonqualified Stock Option Plan (filed as Exhibit 4.4 to our Registration Statement on Form S-8, File No. 333-49514, and incorporated herein by reference).**
10.18	Amendment No. 1 to the Registrant's Amended and Restated 2000 Nonqualified Stock Option Plan (filed as Exhibit 10.18 to our Annual Report on Form 10-K for the year ended December 31, 2005, and incorporated herein by reference).**
10.19	Amendment No. 2 to the Registrant's Amended and Restated 2000 Nonqualified Stock Option Plan (filed as Exhibit 10.19 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2006, and incorporated herein by reference).**
10.20	The Registrant's 2002 Stock Option Plan (filed as Exhibit 10.28 to our Quarterly Report on Form 10-Q for the quarter ended June 30, 2002, and incorporated herein by reference).**
10.21	Amendment No. 1 to the Registrant's 2002 Stock Option Plan (filed as Exhibit 10.20 to our Annual Report on Form 10-K for the year ended December 31, 2005, and incorporated herein by reference).**
10.22	The Registrant's 2004 Stock Incentive Plan (filed as Exhibit 99 to our Registration Statement on Form S-8, File No. 333-118206, and incorporated herein by reference).**
10.23	Amendment No. 1 to the Registrant's 2004 Stock Incentive Plan (filed as Exhibit 10.4 to our Current Report on Form 8-K dated July 20, 2005, and incorporated herein by reference).**
10.24	Amendment No. 2 to the Registrant's 2004 Stock Incentive Plan (filed as Exhibit 10.18 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2005, and incorporated herein by reference).**
10.25	Amendment No. 3 to the Registrant's 2004 Stock Incentive Plan (filed as Exhibit 10.24 to our Annual Report on Form 10-K for the year ended December 31, 2005, and incorporated herein by reference).**
10.26	Amendment No. 4 to the Registrant's 2004 Stock Incentive Plan (filed as Exhibit 10.5 to our Registration Statement on Form S-8, File No 333-135724, and incorporated herein by reference).**
10.27	Amendment No. 5 to the Registrant's 2004 Stock Incentive Plan (filed as Exhibit 10.27 to our Quarterly Report on Form 10-K for the quarter ended September 30, 2006, and incorporated herein by reference).**
10.28	The Registrant's 2008 Stock Incentive Plan (filed as Appendix A to our Definitive Proxy Statement on Schedule 14A filed on April 29, 2008, and incorporated herein by reference).**
10.29	Development and License Agreement by and between the Registrant and Amylin Pharmaceuticals, Inc. dated June 23, 2006 (filed as Exhibit 10.66 to our Quarterly Report on Form 10-Q for the quarter ended June 30, 2006, and incorporated herein by reference).(1)
10.30	Form of Restricted Stock Grant Agreement (filed as Exhibit 10.1 to our Current Report on Form 8-K dated February 6, 2007, and incorporated herein by reference).**
10.31	Form of Stock Option Agreement (filed as Exhibit 10.2 to our Current Report on Form 8-K dated February 6, 2007, and incorporated herein by reference).**
10.32	Form of Omnibus Amendment to Certain Grant Agreements, dated May 4, 2007 (filed as Exhibit 10.42 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2007, and incorporated herein by reference.**
10.33	The Registrant's 2007 Employee Stock Purchase Plan (filed as Exhibit 10.1 to our Registration Statement on Form S-8, File No. 333-146183, and incorporated herein by reference).**

Exhibit No.	Description
10.34	Placement Agency Agreement, dated March 7, 2008, between the Registrant and Maxim Group LLC (filed as Exhibit 10.1 to our Current Report on Form 8-K dated April 25, 2008, and incorporated herein by reference).
10.35	Securities Purchase Agreement, dated as of April 25, 2008, between the Registrant and the purchasers identified on the signature page thereto (filed as Exhibit 10.2 to our Current Report on Form 8-K dated April 25, 2008, and incorporated herein by reference).
10.36	Amendment No. 1 to the Securities Purchase Agreement, dated as of April 25, 2008, between the Registrant and the purchasers identified therein (filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended June 30, 2009, and incorporated herein by reference).
10.37	Loan and Security Agreement, dated as of January 23, 2009, among General Electric Capital Corporation, Atossa Healthcare, Inc., MDRNA Research, Inc., Nastech Holdings I, LLC, Nastech Holdings II, LLC and the Registrant (filed as Exhibit 10.1 to our Quarterly Report on From 10-Q for the quarter ended March 31, 2009, and incorporated herein by reference).
10.38	Non-Exclusive Patent License Agreement, effective as of February 12, 2009, by and between Hoffmann-La Roche Inc., F. Hoffmann-La Roche Ltd. and the Registrant (filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q/A for the quarter ended March 31, 2009, and incorporated herein by reference). (1)
10.39	License Agreement dated as of March 20, 2009 by and between Novartis Institutes for BioMedical Research, Inc. and the Registrant (filed as Exhibit 10.3 to our Quarterly Report on Form 10-Q/A for the quarter ended March 31, 2009, and incorporated herein by reference). (1)
10.40	Placement Agency Agreement, dated June 9, 2009, between the Registrant and Canaccord Adams Inc. (filed as Exhibit 10.1 to our Current Report on Form 8-K dated June 10, 2009, and incorporated herein by reference).
10.41	Securities Purchase Agreement, dated as of June 9, 2009, between the Registrant and the purchasers identified on the signature page thereto (filed as Exhibit 10.2 to our Current Report on Form 8-K dated June 10, 2009, and incorporated herein by reference).
10.42	Note and Warrant Purchase Agreement, dated as of December 22, 2009, among the Registrant, MDRNA Research, Inc. and the purchasers identified in the signature pages thereto (filed as Exhibit 10.1 to our Current Report on Form 8-K dated December 22, 2009, and incorporated herein by reference).
10.43	Placement Agency Agreement, dated January 13, 2010, between the Registrant and Canaccord Adams, Inc. (filed as Exhibit 10.1 to our Current Report on Form 8-K dated January 13, 2010, and incorporated herein by reference).
10.44	Securities Purchase Agreement, dated as of January 13, 2010, between the Registrant and the purchasers identified on the signature page thereto (filed as Exhibit 10.2 to our Current Report on Form 8-K dated January 13, 2010, and incorporated herein by reference).
10.45	Form of Director's and Officer's Indemnification Agreement. (2)**
21.1	Subsidiaries of the Registrant. (2)
23.1	Consent of KPMG LLP, independent registered public accounting firm.(2)
31.1	Certification of our Chief Executive Officer pursuant to Rules 13a-14 and 15d-14 under the Securities Exchange Act of 1934, as amended.(2)
31.2	Certification of our Chief Financial Officer pursuant to Rules 13a-14 and 15d-14 under the Securities Exchange Act of 1934, as amended.(2)
32.1	Certification of our Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.(3)

Exhibit No.	Description
32.2	Certification of our Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.(3)

(1) Portions of this exhibit have been omitted pursuant to a request for confidential treatment under Rule 24b-2 of the Securities and Exchange Act of 1934, amended, and the omitted material has been separately filed with the Securities and Exchange Commission.

(2) Filed herewith.

(3) Furnished herewith.

** Indicates management contract or compensatory plan or arrangement.

EXHIBIT 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors
MDRNA, Inc.

We consent to incorporation by reference in the registration statements (Nos. 333-44035, 333-59472, 333-62800, 333-72742, 333-108845 and 333-148771, No. 333-164326) on Forms S-3 and (Nos. 333-28785, 333-46214, 333-49514, 333-92206, 333-92222, 333-118206, 333-126905, 333-135724, 333-146183 and 333-153594) on Forms S-8 of MDRNA, Inc. of our report dated March 23, 2010, with respect to the consolidated balance sheets of MDRNA, Inc. and subsidiaries as of December 31, 2008 and 2009, and the related consolidated statements of operations, stockholders' equity (deficit) and comprehensive loss, and cash flows for each of the years in the two-year period ended December 31, 2009, which appears in the December 31, 2009 annual report on Form 10-K of MDRNA, Inc. Our report dated March 23, 2010 refers to the Company's change in method of accounting for warrants no longer considered indexed to the Company's own stock effective January 1, 2009 and contains an explanatory paragraph that states that the Company has incurred recurring losses, has had recurring negative cash flows from operations, and has an accumulated deficit that raise substantial doubt about its ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ KPMG LLP

Seattle, Washington
March 23, 2010

EXHIBIT 31.1

CHIEF EXECUTIVE OFFICER CERTIFICATION

REQUIRED BY RULES 13A-14 AND 15D-14 UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, J. Michael French, certify that:

1. I have reviewed this annual report on Form 10-K of MDRNA, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and we have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures as of the end of the period covered by this report based on such evaluation;

d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):

a) all significant deficiencies in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ J. Michael French

Name: J. Michael French

Title: President and Chief Executive Officer

Date: March 23, 2010

EXHIBIT 31.2

CHIEF FINANCIAL OFFICER CERTIFICATION

REQUIRED BY RULES 13A-14 AND 15D-14 UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, Peter S. Garcia, certify that:

1. I have reviewed this annual report on Form 10-K of MDRNA, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and we have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures as of the end of the period covered by this report based on such evaluation;

d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):

a) all significant deficiencies in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ Peter S. Garcia

Name: Peter S. Garcia
Title: Chief Financial Officer

Date: March 23, 2010

EXHIBIT 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, J. Michael French., President and Chief Executive Officer of MDRNA, Inc. ("MDRNA"), certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report of MDRNA on Form 10-K for the year ended December 31, 2009 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and that information contained in the Annual Report on Form 10-K fairly presents in all material respects the financial condition and results of operations of MDRNA.

By: /s/ J. Michael French
Name: J. Michael French
Title: President and Chief Executive Officer

Date: March 23, 2010

A signed original of this written statement required by Section 906 has been provided to MDRNA and will be retained by MDRNA and furnished to the Securities and Exchange Commission or its staff upon request.

This certification accompanies each periodic report pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed filed by MDRNA for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

EXHIBIT 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, Peter S. Garcia, Chief Financial Officer of MDRNA, Inc. ("MDRNA"), certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report of MDRNA on Form 10-K for the year ended December 31, 2009 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and that information contained in the Annual Report on Form 10-K fairly presents in all material respects the financial condition and results of operations of MDRNA.

By: /s/ Peter S. Garcia
Name: Peter S. Garcia
Title: Chief Financial Officer

Date: March 23, 2010

A signed original of this written statement required by Section 906 has been provided to MDRNA and will be retained by MDRNA and furnished to the Securities and Exchange Commission or its staff upon request.

This certification accompanies each periodic report pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed filed by MDRNA for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

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FORWARD-LOOKING STATEMENT
This Annual Report contains Forward-looking statements and readers should carefully review the risk factors in Form 10-K included herein.

INDEPENDENT REGISTERED PUBLIC ACCOUNTANTS
KPMG LLP
801 Second Avenue
Seattle, WA. 98104

ANNUAL REPORT ON FORM 10-K
The Company's Annual Report on Form 10-K, filed with the Securities and Exchange Commission, is available without charge by writing, phoning or visiting our website at www.mdrnainc.com

REGISTRAR AND TRANSFER AGENT
American Stock Transfer & Trust Co.
59 Maiden Lane
New York, N.Y. 10038
Toll-free: 1-877-777-0800

STOCK LISTING
The Company's Common Stock is traded on the Nasdaq Global Market under the symbol MRNA.

LEGAL COUNSEL
Pryor Cashman LLP
7 Times Square
New York, N.Y. 10036

ANNUAL MEETING
July 21, 2010
10:00 a.m.
The offices of Pryor Cashman LLP
7 Times Square
New York, N.Y.
10036

BOARD OF DIRECTORS
J. Michael French
James M. Karis
Daniel Peters
James E. Rothman, Ph.D.
Gregory Sessler
Bruce R. Thaw - Chairman of the Board

EXECUTIVE MANAGEMENT
J. Michael French
- President and CEO

Barry Polisky, Ph.D.
- Chief Scientific Officer

Peter S. Garcia
- Chief Financial Officer and Secretary

The MDRNA Team:

** Roger Adami ** Aleksandr Agapov ** June Ameen ** Jeff Baker ** Mark Bales ** Ingrid Bell ** Susan Bell ** Darin Benson ** Tod Brown ** Pat Charmley ** Feng Chen ** Yan Chen ** Annemarie Cohen ** Ken Cooper ** Kelli Endreson ** Renata Fam ** Ken Farber ** Absar Faruqui ** Kathy Fosnaugh ** Taryn Frazier ** Michael French ** Pete Garcia ** Ty Goodman ** Brian Granger ** Pierrot Harvie ** Mike Houston ** Rachel Johns ** Suzanne Killion ** Jeanine Kinnard ** Chad Kratochwill ** Erin Kwang ** Yan Liu ** Iwona Maciagiewicz ** Michael McCutcheon ** Gary Millen ** Colleen Murphy ** Barry Polisky ** Cheryl Schwenk ** Shaguna Seth ** Greg Severson ** Ingrid Simms ** Linda Singer ** AkihideTakagi ** Mike Templin ** Narendra Vaish ** Jonathan van Dyck ** Kelly Walker ** Tianying Zhu **

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