

MEDICINOVA INC
Form 424B5
August 21, 2012
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Filed Pursuant to Rule 424(b)(5)
Registration No. 333-163116

PROSPECTUS SUPPLEMENT

(to the Prospectus dated December 16, 2009)

MEDICINOVA, INC.

\$20,600,000

Common Stock

Pursuant to this prospectus supplement and the accompanying prospectus, we are offering up to \$20,600,000 of our common stock, par value \$0.001, to Aspire Capital Fund, LLC (Aspire Capital) under a Common Stock Purchase Agreement entered into on August 20, 2012.

The shares offered include (i) 363,636 shares of common stock to be issued to Aspire Capital in consideration for entering into the Common Stock Purchase Agreement, (ii) 606,060 shares of common stock that will be sold at a purchase price of \$1,000,000 to Aspire Capital immediately upon execution of the Common Stock Purchase Agreement and (iii) additional shares of common stock with an aggregate offering price of up to \$19,000,000 which may be sold from time to time to Aspire Capital until August 20, 2014. The purchase price for the additional shares of stock will be based upon one of two formulas, depending on the type of purchase notice we present to Aspire Capital. The purchase price for our stock sold pursuant to a regular purchase notice will be the lower of (i) the lowest sale price on the date of sale and (ii) the arithmetic average of the three lowest closing sale prices for our common stock during the 12 consecutive business days ending on the business day immediately preceding the date of sale. The purchase price for our stock sold pursuant to a volume-weighted average price purchase notice will be the lower of (i) the closing sale price on the date of sale and (ii) 95% of the volume-weighted average price for our common stock traded on the NASDAQ Global Market for the purchase date (or (a) if trading volume exceeds a certain limit as specified in the Common Stock Purchase Agreement or (b) if the sale price of the common stock falls below a certain threshold as specified in the Common Stock Purchase Agreement, the purchase price will be 95% of the volume-weighted average price for the trading volume up to such time).

Our common stock is listed on The NASDAQ Global Market under the symbol MNOV and on the Jasdac market (formerly the Hercules Market until its closure in 2010) of the Osaka Securities Exchange under the code 4875. The last reported sale price of our common stock on The NASDAQ Global Market on August 20, 2012 was \$1.88 per share.

Before buying shares of our common stock, you should carefully consider the risk factors described in Risk Factors beginning on page S-6 of this prospectus supplement and page 3 of the accompanying prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement and the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is August 20, 2012.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is the prospectus supplement, including the documents incorporated by reference, which describes the specific terms of this offering. The second part, the accompanying prospectus, including the documents incorporated by reference, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. We urge you to carefully read this prospectus supplement and the accompanying prospectus, and the documents incorporated herein and therein, before buying any of the securities being offered under this prospectus supplement. This prospectus supplement may add, update or change information contained in the accompanying prospectus. To the extent that any statement that we make in this prospectus supplement is inconsistent with statements made in the accompanying prospectus or any documents incorporated by reference therein, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying prospectus and such documents incorporated by reference therein.

You should rely only on the information contained in, or incorporated by reference into, this prospectus supplement and contained in, or incorporated by reference into, the accompanying prospectus. We have not authorized anyone to provide you with different information. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus supplement and the accompanying prospectus. You should not rely on any unauthorized information or representation. This prospectus supplement is an offer to sell only the securities offered hereby, and only under circumstances and in jurisdictions where it is lawful to do so. You should assume that the information in this prospectus supplement and the accompanying prospectus is accurate only as of the date on the front of the applicable document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus supplement or the accompanying prospectus, or any sale of a security.

This prospectus supplement, the accompanying prospectus, and the information incorporated herein and therein by reference includes trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus supplement or the accompanying prospectus are the property of their respective owners.

All references in this prospectus supplement and the accompanying prospectus to MediciNova, the Company, we, us, our, or similar references refer to MediciNova, Inc. and its subsidiaries on a consolidated basis, except where the context otherwise requires or as otherwise indicated.

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PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information contained elsewhere in or incorporated by reference into this prospectus supplement. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our securities. For a more complete understanding of our company and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus supplement and the accompanying prospectus, including the information incorporated by reference into this prospectus supplement and the accompanying prospectus, and the information included in any free writing prospectus that we have authorized for use in connection with this offering. If you invest in our securities, you are assuming a high degree of risk. See Risk Factors.

About MediciNova, Inc.

Our Business

We are a development stage biopharmaceutical company focused on acquiring and developing novel, small molecule therapeutics for the treatment of serious diseases with unmet medical needs with a specific focus on the U.S. market. Through strategic alliances, primarily with Japanese pharmaceutical companies, we hold rights to a diversified portfolio of clinical and preclinical product candidates which we believe provide significant commercial opportunity for the Company. In December 2009 we acquired Avigen Inc., or Avigen, a biopharmaceutical company that focused on identifying and developing differentiated products to treat patients with serious disorders, whose potential product candidate is a macrophage migration inhibitory and a glial attenuator for central nervous system, or CNS, disorders such as neuropathic pain, opioid addiction and withdrawal and methamphetamine addiction.

We believe that our ability to gain access to and acquire potentially high-value product candidates from Japanese and European pharmaceutical companies is largely attributable to the established relationships and broad industry experience of our management team. In particular, we believe our relationships with Japanese pharmaceutical companies and their executives provide us with a competitive advantage in opportunistically sourcing product candidates from Japanese pharmaceutical companies at attractive terms. Since our inception, we have established relationships with a number of pharmaceutical companies, including Kissei Pharmaceutical Co., Ltd., or Kissei Pharmaceutical, Kyorin Pharmaceutical Co., Ltd., or Kyorin Pharmaceutical, Mitsubishi Tanabe Pharma Corporation and Meiji Seika Kaisha, Ltd., or Meiji Seika Kaisha, in Japan and Angiogene Pharmaceuticals, Ltd., or Angiogene Pharmaceuticals, in the United Kingdom, pursuant to which we have obtained rights to develop and commercialize our current product candidates.

Since our inception, we have acquired licenses to eight compounds for the development of ten product candidates which include clinical development for the treatment of acute exacerbations of asthma, multiple sclerosis (MS) and other central nervous system (CNS) disorders, bronchial asthma, interstitial cystitis (IC), solid tumor cancers, generalized anxiety disorders/insomnia, preterm labor and urinary incontinence. Two of such compounds have been in preclinical development for the treatment of thrombotic disorders. In addition, we have expanded our development program for MN-221 for the treatment of chronic obstructive pulmonary disease (COPD) exacerbations.

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At present, we are focusing our resources on the following prioritized product development programs:

Product

| Candidate | Disease/Indication | Phase of Development | Licensors | Licensed Territory |
|------------------|--|---|---------------------------------------|---|
| MN-221 | Acute exacerbations of asthma and COPD exacerbations | Phase 2 clinical trial (CL-007) in emergency rooms to evaluate safety and efficacy in patients with acute exacerbations of asthma completed in the first quarter of 2012. On March 21, 2012 we announced completion of the 176 patient enrollment of the Phase 2 MN-221-CL-007 clinical trial. End-of-Phase 2 meeting pertaining to MN-221 for the treatment of acute exacerbations of asthma scheduled with the FDA on October 22, 2012. | Kissei Pharmaceutical | Worldwide, except Japan* |
| | | Phase 2 clinical trial in emergency rooms at planned escalating doses in patients with severe, acute exacerbations of asthma completed in Q2, 2009. | | |
| | | In the first quarter of 2012 we initiated an additional Phase 1b COPD clinical trial that has completed enrollment. Trial results are expected in the third quarter of 2012. | | |
| MN-166 | CNS disorders** | Phase 2 clinical trial in relapsing multiple sclerosis, or MS, completed in Q2, 2008. | Kyorin Pharmaceutical (MN-166) | Worldwide, except Japan, China, Taiwan and South Korea (MN-166) |
| | | Phase 1b/2a clinical trial in diabetic neuropathic pain completed in Q4, 2007. | | |
| | | Phase 1b National Institute on Drug Abuse, or NIDA, funded clinical trial in methamphetamine-dependent volunteers initiated in Q4, 2010. | | |
| | | Phase 1b/2a NIDA-funded clinical trial to evaluate safety and efficacy in heroin-dependent volunteers completed in Q4, 2010. | | |

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Investigator initiated Phase 2 clinical trial
collaboration with a headache and pain specialist
in Australia initiated in the third quarter of 2011.

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- * Pursuant to our license agreement with Kissei Pharmaceutical, Kissei Pharmaceutical has the right to co-promote licensed products in our territory on terms to be agreed upon by the parties. We entered into an agreement to form a joint venture company with Zhejiang Medicine Co., Ltd. and Beijing Make-Friend Medicine Technology Co., Ltd. effective September 27, 2011. The joint venture agreement provides for the joint venture company to develop and commercialize MN-221 in China. A sublicense under which the joint venture company will license MN-221 from us will be required, which sublicense will require the consent of the licensor. We have not entered into the sublicense of MN-221 with the joint venture company as of the date of this prospectus supplement. There is no assurance the sublicense will be executed and there is no assurance that the joint venture company will be able to proceed with the development of MN-221 in China.
- ** Other CNS disorders encompass MS, neuropathic pain, opioid addiction and withdrawal and methamphetamine addiction. Upon completion of proof-of-concept Phase 2 clinical trials, we intend to enter into strategic alliances with leading pharmaceutical or biotech companies to support further clinical development if we are unable to raise additional capital to conduct Phase 3 trials. Depending on the outcome of our End-of-Phase 2 meeting with the FDA in October 2012, relating to MN-221 for the treatment of acute exacerbations of asthma, and our ability to raise additional capital and/or to enter into a collaboration with a leading pharmaceutical or biotech company, we intend to define a Phase 3 trial and other development plans for MN-221 for the treatment of acute exacerbations of asthma and conduct one or more Phase 3 trials, and we intend to pursue the development of this drug candidate for the treatment of COPD. We also intend to enter into strategic alliances with leading pharmaceutical or biotech companies, industry consortia and/or research universities to support further clinical development of MN-166 for various CNS disorders, including progressive MS and drug addiction. We may also pursue potential partners and potential acquirers of license rights to our programs in markets outside the U.S. In addition, we continue to limit development activities for the balance of our existing product development programs in order to focus on our prioritized product development programs. For each of these remaining product candidates, we plan to conduct development activities only to the extent deemed necessary to maintain our license rights or maximize their value while pursuing a variety of initiatives to monetize such development programs. We cannot assure you that we will be successful in monetizing these programs on attractive terms, or at all. See *Risk Factors*.

Company Information

We were originally incorporated in the State of Delaware in September 2000. Our principal executive offices are located at 4350 La Jolla Village Drive, Suite 950, San Diego, CA 92122. Our telephone number is (858) 373-1500. Our website is www.medicinova.com, which includes links to reports we have filed with the Securities and Exchange Commission, or SEC. The information contained in, or that can be accessed through, our website is not part of, and is not incorporated into, this prospectus supplement or the accompanying prospectus and should not be considered part of this prospectus supplement or the accompanying prospectus.

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THE OFFERING

| | |
|---|--|
| Common stock offered by us pursuant to this prospectus supplement | Shares having an aggregate offering price of up to \$20.6 million. |
| Manner of offering | 363,636 shares will be issued to Aspire Capital in consideration for entering into the Purchase Agreement (defined below) (the Commitment Shares), an initial sale of 606,060 shares with an offering price of \$1,000,000 (the Initial Shares), plus additional sales from time to time, subject to certain daily caps, of up to an aggregate offering price of \$19,000,000 (the Purchase Shares). See <i>The Aspire Transaction</i> on page S-36 and <i>Plan of Distribution</i> on page S-41. |
| Purchase Price of Shares | <p>The purchase price for the initial sale of 606,060 shares to be completed immediately upon execution of the Purchase Agreement will be \$1,000,000.</p> <p>The purchase price for any subsequent sales of shares will be determined by formulas set forth in the Purchase Agreement on the purchase date for such shares, depending on the type of notice and the historical and current trading prices of our common stock on the NASDAQ Global Market. See <i>The Aspire Transaction</i> on page S-36 and <i>Plan of Distribution</i> on page S-41.</p> |
| Use of proceeds | We intend to use the net proceeds from the sale of the securities under this prospectus supplement to fund our research and development efforts, and for general corporate purposes, including working capital and other general and administrative purposes. See <i>Use of Proceeds</i> on page S-33. |
| NASDAQ Global Market symbol | MNOV |
| Risk factors | This investment involves a high degree of risk. See <i>Risk Factors</i> beginning on page S-6 of this prospectus supplement as well as the other information included in or incorporated by reference in this prospectus supplement and the accompanying prospectus for a discussion of factors you should consider carefully before making an investment decision. |

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RISK FACTORS

An investment in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks described below, together with the other information in this prospectus supplement, the accompanying prospectus, the information and documents incorporated by reference, and in any free writing prospectus that we have authorized for use in connection with this offering. If any of these risks actually occur, our business, financial condition, results of operations or cash flows could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. The risks described below and in the documents referenced above are not the only ones that we face. Additional risks not presently known to us or that we currently deem immaterial may also affect our business operations.

Risks Related to Our Business and Industry

We have incurred significant operating losses since our inception and expect that we will incur continued losses for the foreseeable future.

We are a development stage biopharmaceutical company with a limited operating history. We have incurred significant net losses since our inception. For the quarter ended June 30, 2012, we had a net loss of \$2.3 million and our accumulated deficit was \$291.4 million. If we are successful in securing a strategic collaboration or in raising additional capital to support the expansion of our business, our annual net losses may increase over the next several years as we expand our infrastructure and incur significant costs related to the development of our product candidates.

If we have taxable income in the future, utilization of the net operating losses, or NOL, and tax credit carry-forwards will be subject to a substantial annual limitation under Section 382 and 383 of the Internal Revenue Code of 1986, and similar state provisions due to ownership change limitations that have occurred. These ownership changes will limit the amount of NOL and tax credit carry-forwards that can be utilized to offset future taxable income and tax, respectively.

We believe that our working capital at June 30, 2012, will be sufficient to fund our operating requirements through at least March 31, 2013, assuming that we do not commence any new clinical trials and operate our business in accordance with our current operating plan. This belief is based on assumptions that could prove to be wrong, and we could utilize our available capital resources sooner than we currently expect. Our future cash requirements will also depend on many factors, including:

progress in, and the costs of, future planned clinical trials and other research and development activities;

the scope, prioritization and number of our product development programs;

our obligations under our license agreements, pursuant to which we may be required to make future milestone payments upon the achievement of various milestones related to clinical, regulatory or commercial events;

our ability to establish and maintain strategic collaborations, including licensing and other arrangements, and to complete acquisitions of additional product candidates;

the time and costs involved in obtaining regulatory approvals;

the costs of securing manufacturing arrangements for clinical or commercial production of our product candidates;

the costs associated with expanding our management, personnel, systems and facilities;

the costs associated with any litigation;

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the costs associated with the operations or wind-down of any business it may acquire;

the costs involved in filing, prosecuting, enforcing and defending patent claims and other intellectual property rights; and

the costs of establishing or contracting for sales and marketing capabilities and commercialization activities if we obtain regulatory approval to market our product candidates.

Based on our existing cash resources, we expect our research and development expenses to decline in 2012 relative to 2011 as we have completed our Phase 2 clinical trial of MN-221 for the treatment of acute exacerbations of asthma. If we are able to raise additional capital and/or enter into one or more strategic alliances, then we expect our research and development expenses to increase in connection with one or more clinical trials primarily related to MN-221 for the treatment of acute exacerbations of asthma and COPD exacerbations, and any other development activities that we may initiate. In addition, our general and administrative expenses may increase in future periods as a result of several factors, including our research and development activities, our business development activities and any expansions in our infrastructure related to such activities. Our estimate of cash requirements for future operating expenses assumes that we do not commence a new clinical trial for MN-221 and that we do not fund any further significant clinical development of MN-166 unless we are able to raise additional capital and/or enter into one or more strategic alliances. We expect to continue to incur significant and increasing operating losses for the foreseeable future. Because of the numerous risks and uncertainties associated with developing drug products, we are unable to predict the extent of any future losses or when we will become profitable, if at all.

If we fail to obtain the capital necessary to fund our operations, we will be unable to develop and commercialize our product candidates.

We have consumed substantial amounts of capital since our inception. From our inception to June 30, 2012, we had an accumulated deficit of approximately \$291.4 million. Our cash and cash equivalents were approximately \$7.3 million at June 30, 2012.

Our business will continue to require us to incur substantial research and development expenses and we do not expect to be able to fund these expenses solely from upfront cash or milestones from collaborations or strategic alliances. As such we may be required to raise capital from one or more sources in the near term to continue our operations at or close to the levels currently conducted. We believe that without raising additional capital from accessible sources of financings, we will not otherwise have adequate funding to complete the development of MN-221 including pivotal clinical trials or the commercialization of any products we successfully develop. There is no guarantee that adequate funds will be available when needed from debt or equity financing, arrangements with partners, or from other sources, or on terms attractive to us. The inability to obtain sufficient additional funds when needed to fund our operations would require us to significantly delay, scale back, or eliminate some or all of our clinical or regulatory activities, further reduce general and administrative expenses and have a substantial negative effect on our results of operations and financial condition.

We do not have any products that are approved for commercial sale and therefore do not expect to generate any revenues from product sales in the foreseeable future, if ever.

To date, we have funded our operations primarily from sales of our securities and, to a lesser extent, debt financing. We have not received, and do not expect to receive for at least the next several years, if at all, any revenues from the commercialization of our product candidates. We anticipate that, prior to our commercialization of a product candidate, out-licensing upfront and milestone payments will be our primary source of revenue if we can enter into collaborations, strategic alliances or other agreements that would provide us with such revenues. To obtain revenues from sales of our product candidates, we must succeed, either alone or

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with third parties, in developing, obtaining regulatory approval for, manufacturing and marketing drugs with commercial potential. We may never succeed in these activities, and we may not generate sufficient revenues to continue our business operations or achieve and maintain profitability.

We are largely dependent on the success of our two prioritized product candidates, MN-221 and MN-166, and we cannot be certain that either of these product candidates will receive regulatory approval or be successfully commercialized.

We currently have no products for sale, and we cannot guarantee that we will ever have any drug products approved for sale. The research, testing, manufacturing, labeling, approval, selling, marketing and distribution of drug products are subject to extensive regulation by the FDA and comparable regulatory authorities in other countries. We are not permitted to market any of our product candidates in the U.S. until we submit and receive approval of a New Drug Application, or NDA, for a product candidate from the FDA or its foreign equivalent from a foreign regulatory authority. Obtaining FDA approval is a lengthy, expensive and uncertain process. We currently have two prioritized product candidates, MN-221 for the treatment of acute exacerbations of asthma and COPD exacerbations and MN-166, a combined ibudilast product development program covering MS and other CNS disorders, and the success of our business currently depends on their successful development and commercialization. Neither of these product candidates has completed the clinical development process; therefore, we have not submitted an NDA or foreign equivalent or received marketing approval for either of these two prioritized product candidates. In addition, we are not currently planning to fund any further significant clinical development of MN-166 until such time that we are able to secure a strategic collaboration to advance the combined development programs, which may delay or impede the process of completing clinical trials and seeking regulatory approval for this product candidate. We also cannot assure you that we will be able to secure such a strategic collaboration on attractive financial and other terms, or at all.

The clinical development programs for MN-221 and MN-166 may not lead to commercial products for a number of reasons, including our clinical trials' failure to demonstrate to the FDA's satisfaction that these product candidates are safe and effective or our failure to obtain necessary approvals from the FDA or similar foreign regulatory authorities for any reason. We may also fail to obtain the necessary approvals if we have inadequate financial or other resources to advance our product candidates through the clinical trial process or are unable to secure a strategic collaboration or partnership with a third party. Any failure or delay in completing clinical trials or obtaining regulatory approval for either MN-221 or MN-166 in a timely manner would have a material and adverse impact on our business and our stock price.

If we are unsuccessful with our End-of-Phase 2 meeting with the FDA pertaining to the development of MN-221 for the treatment of acute exacerbations of asthma, we may be unable to develop and commercialize this product candidate.

On May 23, 2012 we announced that preliminary trial results of the 176 patient enrollment of the Phase 2 MN-221-CL-007 clinical trial did not statistically meet the primary endpoint, improvement in FEV1 (Forced Expiratory Volume in One Second) compared to placebo. However, given the positive MN-221 efficacy and safety data displayed in this trial and other clinical trials of MN-221, we have scheduled an End-of-Phase 2 meeting with the FDA pertaining to the development of MN-221 for the treatment of acute exacerbations of asthma on October 22, 2012. An unsuccessful End-of-Phase 2 meeting with the FDA could significantly delay or materially and adversely impact our future development of MN-221, including the development and costs and timing for future trials and/or materially and adversely impact our ability to raise the capital necessary to advance development and fund our ongoing operations.

We will rely on the joint venture company formed in China in 2011 to develop and commercialize MN-221 in China and there is no assurance that the joint venture will be able to be successful in doing so.

We entered into an agreement to form a joint venture company with Zhejiang Medicine Co., Ltd. and Beijing Make-Friend Medicine Technology Co., Ltd. effective September 27, 2011. We have invested \$680,000

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for 30% interest in the joint venture company. A sublicense under which the joint venture company will license MN-221 from us will be required, which sublicense will require the consent of the licensor. We have no assurances that the joint venture company will be successful in its efforts to conduct clinical trials necessary to gain regulatory approval of MN-221 or any other drug candidate pursued by the joint venture in China, will be able to successfully manufacture drug candidates for the Chinese market or will receive the future funding it will require to conduct operations. We have not entered into the sublicense of MN-221 with the joint venture company as of the date of this report. There is no assurance the sublicense will be executed and there is no assurance that the joint venture company will be able to proceed with the development of MN-221 in China or that we will someday recover our investment in the joint venture company.

We may not realize all of the anticipated benefits of the combined clinical development programs based on ibudilast.

We may not be able to successfully secure a strategic collaboration to advance the combined ibudilast development programs. Following completion of the Phase 2 clinical trial of MN-166 for the treatment of MS in the second quarter of 2008 and the acquisition of Avigen in December 2009, we have not undertaken, nor do we plan to undertake, any further significant clinical development of MN-166 until such time that we secure a strategic collaboration to advance the combined clinical development of MN-166 ibudilast-based development program. We cannot assure you that we will be able to secure such a strategic collaboration or otherwise further advance, or recognize value from, a combined MN-166 clinical development program.

In order to commercialize a therapeutic drug successfully, a product candidate must receive regulatory approval after the successful completion of clinical trials, which are long, complex and costly, have a high risk of failure and can be delayed or terminated at any time.

Our product candidates are subject to extensive government regulations related to development, clinical trials, manufacturing and commercialization. The process of obtaining FDA and other regulatory approvals is costly, time-consuming, uncertain and subject to unanticipated delays. To receive regulatory approval for the commercial sale of any of our product candidates, we must conduct, at our own expense, adequate and well-controlled clinical trials in human patients to demonstrate the efficacy and safety of the product candidate. Clinical testing is expensive, takes many years and has an uncertain outcome. To date, we have obtained regulatory authorization to conduct clinical trials for eight of our product development programs. Investigational New Drug Applications, or INDs, were approved by the FDA and are active for seven of our product candidates. We also have obtained Clinical Trial Authorizations, or CTAs, for the MN-221-CL-007 Phase 2 clinical trial in Canada, Australia and New Zealand. Through the acquisition of Avigen, we have assumed responsibility for clinical trials including one active IND for neuropathic pain and cross-reference and drug product support of the NIDA-funded opioid withdrawal investigator-initiated IND with Columbia University drug addiction clinical researchers. In the third quarter of 2010, the FDA approved a NIDA-funded investigator-initiated IND with University of California Los Angeles to proceed with an initial trial of our neurological drug candidate, ibudilast (MN-166), as a potential new pharmacotherapy for methamphetamine addiction. The study is proceeding and in late 2011 collaborators and advocates of ibudilast utility in chronic pain initiated an Investigator-sponsored and funded phase 2 trial for ibudilast in a form of chronic headache pain related to opioid usage known as Medication Overuse Headache. MediciNova provides placebo and active drug product and safety and regulatory support.

It may take years to complete the clinical development necessary to commercialize a drug, and delays or failure can occur at any stage, which may result in our inability to market and sell any products derived from any of our product candidates that are ultimately approved by the FDA or foreign regulatory authorities. Our clinical trials may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical and/or non-clinical testing. For example, in May, 2012, we announced the preliminary results from our Phase 2b clinical trial of MN-221 for patients with acute exacerbations asthma failed to statistically meet in its primary endpoint. Of the large number of drugs in development, only a small percentage result in the submission of an NDA to the FDA and even fewer are approved for commercialization. Interim results of clinical

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trials do not necessarily predict final results, and success in preclinical testing and early clinical trials does not ensure that later clinical trials will be successful. A number of companies in the pharmaceutical industry have suffered significant setbacks in advanced clinical trials even after obtaining promising results in earlier clinical trials. In addition, any delays in completing clinical trials or the rejection of data from a clinical trial by a regulatory authority will result in increased development costs and could have a material adverse effect on the development of the impacted product candidate.

In connection with the conduct of clinical trials for each of our product candidates, we face many risks, including the risks that:

the product candidate may not prove to be effective in treating the targeted indication;

clinical trial participants and/or patients may experience serious adverse events or other undesirable drug-related side effects;

the results may not confirm the positive results of earlier trials;

the FDA or other regulatory authorities may not agree with our proposed development plans or accept the results of completed clinical trials; and

our planned clinical trials and the data collected from such clinical trials may be deemed by the FDA or other regulatory authorities not to be sufficient, which would require additional development for the product candidate before it can be evaluated in late stage clinical trials or before the FDA will consider an application for marketing approval.

If we do not complete clinical development of our product candidates successfully, we will be unable to obtain regulatory approval to market products and generate revenues from such product candidates. We may also fail to obtain the necessary regulatory approvals if we have inadequate financial or other resources to advance our product candidates through the clinical trial process. In addition, even if we believe that the preclinical and clinical data are sufficient to support regulatory approval for a product candidate, the FDA and foreign regulatory authorities may not ultimately approve such product candidate for commercial sale in any jurisdiction, which would limit our ability to generate revenues and adversely affect our business. In addition, even if our product candidates receive regulatory approval, they remain subject to ongoing FDA regulations, including obligations to conduct additional clinical trials, changes to the product label, new or revised regulatory requirements for manufacturing practices, written advisements to physicians, and/or a product recall or withdrawal.

We are subject to stringent regulation of our product candidates, which could delay the development and commercialization of our product candidates.

We, our third-party manufacturers, service providers, suppliers and partners, and our product candidates are subject to stringent regulation by the FDA and other regulatory agencies in the U.S. and by comparable authorities in other countries. None of our product candidates can be marketed in the U.S. until it has been approved by the FDA. None of our product candidates has been approved by the FDA to date, and we may never receive FDA approval for any of our product candidates. Obtaining FDA approval for a product takes many years of clinical development and requires substantial resources. Additionally, changes in regulatory requirements and guidance may occur or new information regarding the product candidate or the target indication may emerge, and we may need to perform additional, unanticipated non-clinical or clinical testing of our product candidates or amend clinical trial protocols to reflect these changes. Any additional unanticipated testing would add costs and could delay or result in the denial of regulatory approval for a product candidate. These regulatory requirements may limit the size of the market for the product or result in the incurrence of additional costs. Any delay or failure in obtaining required approvals could substantially reduce or negate our ability to generate revenues from the particular product candidate.

In addition, both before and after regulatory approval, we, our partners and our product candidates are subject to numerous FDA requirements, including requirements related to testing, manufacturing, quality control, labeling, advertising, promotion, distribution and export. The FDA's requirements may change and additional

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government regulations may be promulgated that could affect us, our partners and our product candidates. Given the number of recent high profile adverse safety events with certain drug products, the FDA may require, as a condition of approval, costly risk management programs, which may include safety surveillance, restricted distribution and use, patient education, enhanced labeling, special packaging or labeling, expedited reporting of certain adverse events, preapproval of promotional materials and restrictions on direct-to-consumer advertising. Furthermore, 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.

In order to market any of our products outside of the U.S., we and our strategic partners and licensees must establish and comply with numerous and varying regulatory requirements of other countries regarding safety and efficacy. Approval procedures vary among countries and can involve additional product testing and additional administrative review periods beyond the requirements of the FDA and the time required to obtain approval in other countries might differ from that required to obtain FDA approval. The regulatory approval process in other countries may include all of the risks detailed above regarding FDA approval in the U.S. Regulatory approval in one country, including FDA approval in the U.S, does not ensure regulatory approval in another. In addition, a failure or delay in obtaining regulatory approval in one country may negatively impact the regulatory process in others. A product candidate may not be approved for all indications that we request, which would limit the uses of our product and adversely impact our potential royalties and product sales, and any approval that we receive may be subject to limitations on the indicated uses for which the product may be marketed or require costly, post-marketing follow-up studies.

If we fail to comply with applicable regulatory requirements in the U.S. or other countries, we may be subject to regulatory and other consequences, including fines and other civil penalties, delays in approving or failure to approve a product, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions, interruption of manufacturing or clinical trials, injunctions and criminal prosecution, any of which would harm our business.

Even if our product candidates receive regulatory approval, they may still face future development and regulatory difficulties.

Even if U.S. regulatory approval is obtained, the FDA may still impose significant restrictions on a product's indicated uses or marketing or impose ongoing requirements for potentially costly post-approval studies, including additional research and development and clinical trials. Any of these restrictions or requirements could adversely affect our potential product revenues. For example, the label ultimately approved for MN-221 or MN-166, our other product candidates or any other product candidates that we may in-license or acquire, if any, may include a restriction on the terms of its use, or it may not include one or more of our intended indications.

Our product candidates will also be subject to ongoing FDA requirements for the labeling, packaging, storage, advertising, promotion, record-keeping and submission of safety and other post-market information on the drug. In addition, approved products, manufacturers and manufacturers' facilities are subject to continual review and periodic inspections. If a regulatory agency discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency or problems with the facility where the product is manufactured, a regulatory agency may impose restrictions on that product or us, including requiring withdrawal of the product from the market. If our product candidates fail to comply with applicable regulatory requirements, such as commercial good manufacturing practices, or cGMPs, a regulatory agency may:

issue warning letters or untitled letters;

require us to enter into a consent decree, which can include imposition of various fines, reimbursements for inspection costs, required due dates for specific actions and penalties for noncompliance;

impose other civil or criminal penalties;

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suspend regulatory approval;

suspend any ongoing clinical trials;

refuse to approve pending applications or supplements to approved applications filed by us;

impose restrictions on operations, including costly new manufacturing requirements; or

seize or detain products or require a product recall.

If we fail to obtain and maintain approval from regulatory authorities in international markets for any of our current or future product candidates for which we have rights in international markets, our market opportunities will be limited and our business will be adversely impacted.

Sales of our product candidates outside of the U.S. will be subject to foreign regulatory requirements governing clinical trials and marketing approval. Even if the FDA grants marketing approval for a product candidate, comparable regulatory authorities of foreign countries must also approve the manufacturing and marketing of our product candidates in those countries. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and greater than, those in the U.S., including additional preclinical studies or clinical trials. In many countries outside the U.S., a product candidate must be approved for reimbursement before it can be approved for sale in that country. In some cases, the price that we intend to charge for our products is also subject to approval. Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our products in certain countries. Further, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries and regulatory approval in one country does not ensure approval in any other country, while a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory approval process in others.

The FDA may not ultimately approve our proposed trade names for our product candidates.

Any trade names that we intend to use for our product candidates must be approved by the FDA irrespective of whether we have secured a formal trademark registration from the U.S. Patent and Trademark Office, or PTO. The FDA conducts a rigorous review of proposed product names and may reject a proposed product name for a variety of reasons, including if it believes that the name inappropriately implies medical claims or if it poses the potential for confusion with other product names. In addition, if the FDA determines that the trade names of other product candidates that are approved prior to the approval of our product candidates may present a risk of confusion with any of our proposed trade names, the FDA may not ultimately approve those proposed trade names. If the FDA does not approve any of our proposed product names prior to their applicable NDA approval dates, we may be required to launch commercial sales of such products without brand names, and our efforts to build successful brand identities for, and commercialize, such products may consequently be adversely impacted.

Any product candidate that we develop may cause undesirable side effects or have other properties that could delay or prevent regulatory approval or commercialization.

Undesirable side effects caused by any product candidate that we develop could result in the denial of regulatory approval by the FDA or other regulatory authorities for any or all targeted indications, or cause us to evaluate the future of our development programs. In addition, the FDA or other regulatory authorities may require, or we may undertake, additional clinical trials to support the safety profile of our product candidates.

In addition, if any product candidate that we may develop that receives marketing approval and we or others later identify undesirable side effects caused by the product, or there is a perception that the product is associated with undesirable side effects:

regulatory authorities may require the addition of labeling statements, such as a black box warning or a contraindication;

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regulatory authorities may withdraw their approval of the product or place restrictions on the way it is prescribed; and

we may be required to change the way the product is administered, conduct additional clinical trials or change the labeling of the product or implement a risk evaluation and mitigation strategy.

If any of these events occurred with respect to our product candidates, our ability to generate significant revenues from the sale of these products would be significantly harmed.

Delays in the commencement or completion of clinical trials, or suspension or termination of our clinical trials, could result in increased costs to us and delay or limit our ability to obtain regulatory approval for our product candidates.

If we experience delays in the commencement or completion of our clinical trials, we could incur significantly higher product development costs and our ability to obtain regulatory approvals for our product candidates could be delayed or limited. The commencement and completion of clinical trials requires us to identify and maintain a sufficient number of study sites and enroll a sufficient number of patients at such sites. We do not know whether enrollment in our future clinical trials for our product candidates will be completed on time, or whether our additional planned and ongoing clinical trials for our product candidates will be completed on schedule, if at all.

The commencement and completion of clinical trials can be delayed for a variety of other reasons, including delays in:

obtaining regulatory approval to commence or amend a clinical trial;

reaching agreements on acceptable terms with prospective clinical research organizations, or CROs, and trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;

recruiting and enrolling patients to participate in clinical trials;

retaining patients who have initiated a clinical trial but who may be prone to withdraw due to the treatment protocol, lack of efficacy, personal issues or side effects from the therapy or who are lost to further follow-up;

manufacturing sufficient quantities of a product candidate; and

IRB approval or approval from foreign counterparts to conduct or amend a clinical trial at a prospective site.

In addition, a clinical trial may be delayed, suspended or terminated by us, the FDA or other regulatory authorities due to a number of factors, including:

ongoing discussions with regulatory authorities regarding the scope or design of our clinical trials or requests by them for supplemental information with respect to our clinical trial results, which may result in the imposition of a clinical hold on the IND for any clinical trial, as well as the inability to resolve any outstanding concerns with the FDA so that a clinical hold already placed on the IND may be lifted and the clinical trial may begin;

inspections of our own clinical trial operations, the operations of our CROs or our clinical trial sites by the FDA or other regulatory authorities, which may result in the imposition of a clinical hold or potentially prevent us from using some of the data generated from our clinical trials to support requests for regulatory approval of our product candidates;

our failure or inability, or the failure or inability of our CROs, clinical trial site staff or other third party service providers involved in the clinical trial, to conduct clinical trials in accordance with regulatory requirements or our clinical protocols;

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lower than anticipated enrollment or retention rates of patients in clinical trials;

new information suggesting unacceptable risk to subjects or unforeseen safety issues or any determination that a trial presents unacceptable health risks;

insufficient supply or deficient quality of product candidates or other materials necessary for the conduct of our clinical trials; and

lack of adequate funding to continue the clinical trial, including the incurrence of unforeseen costs due to enrollment delays, requirements to conduct additional trials and studies and increased expenses associated with the services of our CROs and other third parties.

If we experience delays in the completion of our clinical trials for a product candidate, the commercial prospects for such product candidate may be harmed, we may incur increased costs for development of such product candidate and our ability to obtain regulatory approval for such product candidate could be delayed or limited. Many of the factors that cause or lead to delays in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval for a product candidate. In addition, any amendment to a clinical trial protocol may require us to resubmit our clinical trial protocols to IRBs or their foreign counterparts for reexamination, which may delay or otherwise impact the costs, timing or successful completion of a clinical trial.

The loss of any rights to develop and market any of our product candidates could significantly harm our business.

We license the rights to certain compounds to develop and market our product candidates. Currently, we have licensed rights relating to eight compounds for the development of ten product candidates.

We are obligated to develop and commercialize certain product candidates in accordance with mutually agreed upon terms and conditions. Our ability to satisfy some or all of the terms and conditions of our license agreements is dependent on numerous factors, including some factors that are outside of our control. Any of our license agreements may be terminated if we breach our obligations under the agreement materially and fail to cure any such breach within a specified period of time.

If any of our license agreements is terminated, we would have no further rights to develop and commercialize the product candidate that is the subject of the license. The termination of the license agreements related to either of our two prioritized product candidates would significantly and adversely affect our business. The termination of any of the remainder of our license agreements could materially and adversely affect our business.

If our competitors develop and market products that are more effective than our product candidates, they may reduce or eliminate our commercial opportunities.

The biotechnology and pharmaceutical industries are subject to rapid and intense technological change. We face, and will continue to face, competition from pharmaceutical and biotechnology companies, as well as numerous academic and research institutions and governmental agencies, in the U.S. and abroad. Some of these competitors have products or are pursuing the development of drugs that target the same diseases and conditions that are the focus of our product development programs. We cannot assure you that developments by others will not render our product candidates obsolete or noncompetitive. Many of our competitors have products that have been approved or are in advanced development and may succeed in developing drugs that are more effective, safer, more affordable or more easily administered than ours, or that achieve patent protection or commercialization sooner than our products. Our competitors may also develop alternative therapies that could further limit the market for any products that we are able to obtain approval for, if at all. In addition, new developments, including the development of other drug technologies and methods of preventing the incidence of disease, occur in the pharmaceutical industry at a rapid pace. These developments may render our product candidates obsolete or noncompetitive.

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In many of our target disease areas, potential competitors are working to develop new compounds with different mechanisms of action and attractive efficacy and safety profiles. Many of our competitors have substantially greater financial, research and development resources, including personnel and technology, clinical trial experience, manufacturing, sales and marketing capabilities and production facilities than we do. Smaller companies also may prove to be significant competitors, particularly through proprietary research discoveries and collaboration arrangements with large pharmaceutical and established biotechnology companies.

Our competitors may obtain regulatory approval of their products more rapidly than we are able to or may obtain patent protection or other intellectual property rights that limit our ability to develop or commercialize our product candidates. Our competitors may also develop drugs that are more effective and less costly than ours and may also be more successful than us in manufacturing and marketing their products. We also expect to face similar competition in our efforts to identify appropriate collaborators or partners to help develop or commercialize our product candidates.

We will depend on strategic collaborations with third parties to develop and commercialize selected product candidates and will not have control over a number of key elements relating to the development and commercialization of these product candidates if we are able to achieve such third-party arrangements.

A key aspect of our strategy is to seek collaborations with partners, such as large pharmaceutical companies, that are willing to conduct later-stage clinical trials and further develop and commercialize selected product candidates. Following completion of the Phase 2 clinical trial for MN-166 for the treatment of MS in the second quarter of 2008 and the acquisition of Avigen in December 2009, we do not plan to undertake any further significant clinical development activities for any of our product candidates other than MN-221 for the treatment of acute exacerbations of asthma and COPD exacerbations, other than those activities deemed necessary to maximize each product candidate's value, until such time that we are successful in entering into a partnership or collaboration for further development of such product candidates. To date, we have not entered into any such collaborative arrangements, and we may not be able to enter into any collaborations or otherwise monetize these product candidates on acceptable terms, if at all.

By entering into a strategic collaboration with a partner, we may rely on the partner for financial resources and for development, regulatory and commercialization expertise. Even if we are successful in entering into a strategic collaboration for one of our product candidates, our partner may fail to develop or effectively commercialize the product candidate because such partner:

does not have sufficient resources or decides not to devote the necessary resources due to internal constraints such as limited cash or human resources;

decides to pursue a competitive potential product developed outside of the collaboration;

cannot obtain the necessary regulatory approvals;

determines that the market opportunity is not attractive; or

cannot manufacture the necessary materials in sufficient quantities from multiple sources or at a reasonable cost.

We also face competition in our search for partners from other biotechnology and pharmaceutical companies worldwide, many of whom are larger and able to offer more attractive deals in terms of financial commitments, contribution of human resources, or development, manufacturing, regulatory or commercial expertise and support.

If we are not successful in attracting partners and entering into collaborations on acceptable terms for these product candidates or otherwise monetizing these product candidates, we may not be able to complete development of or obtain regulatory approval for such product candidates. In such event, our ability to generate revenues from such products and achieve or sustain profitability would be significantly hindered.

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The terms under which we raise additional capital or debt financing may harm our business and may significantly dilute stockholders ownership interests.

If we raise additional funds through collaborations or licensing arrangements with third parties, we may need to relinquish some rights to our product candidates, including commercialization rights, which may hinder our ability to generate revenues and achieve or sustain profitability. If we raise additional funds by issuing equity securities, including as part of a debt financing, stockholders may experience substantial dilution. Debt financing, if available, may involve significant cash payment obligations and restrictive covenants and other financial terms that may impede our ability to operate our business. Any debt financing or additional equity that we raise may contain terms that are not favorable to us or our stockholders.

We rely on third parties to conduct our clinical trials, and we may incur additional development costs, experience delays in the commencement and completion of clinical trials, and be unable to obtain regulatory approval for or commercialize our product candidates on our anticipated timeline if these third parties do not successfully carry out their contractual duties or meet expected deadlines.

We rely extensively on CROs, medical institutions, clinical investigators, contract laboratories and other service providers to perform important functions related to the conduct of our clinical trials, the collection and analysis of data and the preparation of regulatory submissions. Although we design and manage our current clinical trials to ensure that each clinical trial is conducted in accordance with its investigational plan and protocol, we do not have the ability to conduct all aspects of our clinical trials directly for our product candidates.

The FDA requires us and our CROs to comply with regulations and standards, commonly referred to as good clinical practices, or GCPs, for conducting, monitoring, recording and reporting the results of clinical trials to ensure that the data and results are scientifically credible and accurate and that the trial subjects are adequately informed of the potential risks of participating in clinical trials. Our reliance on CROs does not relieve us of these responsibilities and requirements. The CROs, medical institutions, clinical investigators, contract laboratories and other service providers that we employ in the conduct of our clinical trials are not our employees, and we cannot control the amount or timing of resources that they devote to our product development programs. If any of these third parties fails to devote sufficient care, time and resources to our product development programs, if its performance is substandard, or if any third party is inspected by the FDA and found not to be in compliance with GCPs, it will delay the completion of the clinical trial in which they are involved and the progress of the affected development program. The CROs with which we contract for execution of our clinical trials play a significant role in the conduct of the clinical trials and the subsequent collection and analysis of data. Any failure of the CROs to meet their obligations could adversely affect clinical development of our product candidates. Moreover, the CROs, clinical investigators and other service providers may have relationships with other commercial entities, some of which may have competitive products under development or currently marketed, and our competitive position could be harmed if they assist our competitors. If any of these third parties does not successfully carry out their contractual duties or obligations or meet expected deadlines, or if the quality or accuracy of the clinical data is compromised for any reason, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for our product candidates. In addition, while we believe that there are numerous alternative sources to provide these services, we might not be able to enter into replacement arrangements without delays or additional expenditures if we were to seek such alternative sources.

We rely on third-party manufacturers to produce our product candidates, which may result in delays in our clinical trials and the commercialization of products, as well as increased costs.

We have no manufacturing facilities, and we do not intend to develop facilities for the manufacture of our product candidates for clinical trials or commercial purposes in the foreseeable future. We contract with third-party manufacturers to produce, in collaboration with us, sufficient quantities of our product candidates for

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clinical trials, and we plan to contract with third-party manufacturers to produce sufficient quantities of any product candidates approved by the FDA or other regulatory authorities for commercial sale. While we believe that there are competitive sources available to manufacture our product candidates, we may not be able to enter into arrangements without delays or additional expenditures. We cannot estimate these delays or costs with certainty.

Reliance on third-party manufacturers limits our ability to control certain aspects of the manufacturing process and therefore exposes us to a variety of significant risks, including risks related to our ability to commercialize any products approved by regulatory authorities or conduct clinical trials, reliance on such third parties for regulatory compliance and quality assurance, and the refusal or inability of a third-party manufacturer to supply our requirements on a long-term basis. In addition, manufacturers of pharmaceutical products often encounter difficulties in production, particularly in scaling up initial production. These problems include difficulties with production costs and yields, quality control, including stability of the product candidate and quality assurance testing, shortages of qualified personnel and compliance with federal, state and foreign regulations. Also, our manufacturers may not perform as agreed. If our manufacturers were to encounter any of these difficulties, our ability to timely produce our product candidates for clinical trials and commercial sale may be interrupted, which could result in delayed clinical trials or receipt of regulatory approval and lost or delayed revenues.

We have entered into an agreement with Hospira Worldwide, Inc. for the development and supply of finished product of MN-221 for the treatment of acute exacerbations of asthma and COPD that we intend to use in clinical trials and the commercial market if MN-221 receives regulatory approval. We do not have agreements established regarding commercial supply of finished product of MN-221 in standard vials or for the active pharmaceutical ingredient, or API, or finished product for any of our product candidates. Pursuant to our license agreement with Kissei Pharmaceutical Co., Ltd., we will negotiate with them a commercial supply agreement on commercially reasonable terms, in order to manufacture the API for MN-221 on a commercial scale if MN-221 is approved by the FDA or other regulatory authorities for commercial sale. We will also need to successfully negotiate a supply agreement with a third-party manufacturer on commercially reasonable terms in order to manufacture the finished product of MN-221 in standard vials. We may not be able to establish or maintain any commercial manufacturing and supply arrangements on commercially reasonable terms that we require for purposes of commercializing a product. Any failure by us to secure or maintain any such required commercial supply agreements could result in interruption of supply and lost or delayed revenues, which would adversely affect our business. Any problems or delays we experience in preparing for commercial-scale manufacturing of a product candidate may result in a delay in FDA or other regulatory approval of the product candidate or may impair our ability to manufacture commercial quantities, which would adversely affect our business. For example, our manufacturers will need to produce specific batches of a product candidate to demonstrate acceptable stability under various conditions and for commercially viable lengths of time. We and our third-party manufacturers will need to demonstrate to the FDA and other regulatory authorities this acceptable stability data for the product candidate, as well as validate methods and manufacturing processes, in order to receive regulatory approval to commercialize such product candidate.

Our manufacturers are obligated to operate in accordance with FDA-mandated current good manufacturing practices, or cGMPs and, in some cases, International Convention on Harmonization, or ICH, standards. A failure of any of our third-party manufacturers to establish and follow cGMPs and/or ICH standards and to document their adherence to such practices may lead to significant delays in our ability to timely conduct and complete clinical trials, obtain regulatory approval of product candidates or launch of our products into the market. In addition, changing third-party manufacturers is difficult. For example, a change in third-party manufacturer for a particular product candidate requires re-validation of the manufacturing processes and procedures in accordance with cGMPs, which may be costly and time-consuming and, in some cases, our manufacturers may not provide us with adequate assistance to transfer the manufacturing processes and procedures for our product candidates to new manufacturers or may possess intellectual property rights covering parts of these processes or procedures for which we may need to obtain a license. Failure by our third-party manufacturers or us to comply with applicable

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regulations could result in sanctions being imposed on us, including fines, injunctions, civil penalties, delays, suspension or withdrawal of regulatory approvals, seizures or recalls of products, operating restrictions and criminal prosecutions.

We may not be able to manufacture our product candidates in commercial quantities, which would prevent us from commercializing our product candidates.

To date, our product candidates have been manufactured in small quantities for preclinical studies and clinical trials. If any of our product candidates is approved by the FDA or comparable regulatory authorities in other countries for commercial sale, we will need to manufacture such product candidate in larger quantities. We may not be able to increase successfully the manufacturing capacity for any of our product candidates in a timely or economic manner, or at all. Significant scale-up of manufacturing may require additional validation studies, which the FDA must review and approve. If we are unable to increase successfully the manufacturing capacity for a product candidate, the regulatory approval or commercial launch of that product candidate may be delayed or there may be a shortage in supply. Our product candidates require precise, high quality manufacturing. Our failure to achieve and maintain these high manufacturing standards in collaboration with our third-party manufacturers, including the incidence of manufacturing errors, could result in patient injury or death, product recalls or withdrawals, delays or failures in product testing or delivery, cost overruns or other problems that could harm our business, financial condition and results of operations.

Materials necessary to manufacture our product candidates may not be available on commercially reasonable terms, or at all, which may delay the development and commercialization of our product candidates.

We rely on the third-party manufacturers of our product candidates to purchase from third-party suppliers the materials necessary to produce the API and product candidates for our clinical trials, and we will rely on such manufacturers to purchase such materials to produce the API and finished product for any commercial distribution of our products if we obtain marketing approval. Suppliers may not sell these materials to our manufacturers at the time they need them in order to meet our required delivery schedule or on commercially reasonable terms, if at all. We do not have any control over the process or timing of the acquisition of these materials by our manufacturers. Moreover, we currently do not have any agreements for the production of these materials. If our manufacturers are unable to obtain these materials for our clinical trials, testing of the affected product candidate would be delayed, which may significantly impact our ability to develop the product candidate. If we or our manufacturers are unable to purchase these materials after regulatory approval has been obtained for one of our products, the commercial launch of such product would be delayed or there would be a shortage in supply of such product, which would harm our ability to generate revenues from such product and achieve or sustain profitability.

Our product candidates, if approved for sale, may not gain acceptance among physicians, patients and the medical community, thereby limiting our potential to generate revenues.

If one of our product candidates is approved for commercial sale by the FDA or other regulatory authorities, the degree of market acceptance of any approved product by physicians, healthcare professionals and third-party payers and our profitability and growth will depend on a number of factors, including:

demonstration of efficacy;

changes in the standard of care for the targeted indication;

relative convenience and ease of administration;

the prevalence and severity of any adverse side effects;

availability, cost and potential advantages of alternative treatments, including less expensive generic drugs;

pricing and cost effectiveness, which may be subject to regulatory control;

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effectiveness of our or any of our partners' sales and marketing strategies;

the product labeling or product insert required by the FDA or regulatory authority in other countries; and

the availability of adequate third-party insurance coverage or reimbursement.

If any product candidate that we develop does not provide a treatment regimen that is as beneficial as, or is perceived as being as beneficial as, the current standard of care or otherwise does not provide patient benefit, that product candidate, if approved for commercial sale by the FDA or other regulatory authorities, likely will not achieve market acceptance. Our ability to effectively promote and sell any approved products will also depend on pricing and cost-effectiveness, including our ability to produce a product at a competitive price and our ability to obtain sufficient third-party coverage or reimbursement. If any product candidate is approved but does not achieve an adequate level of acceptance by physicians, patients and third-party payors, our ability to generate revenues from that product would be substantially reduced. In addition, our efforts to educate the medical community and third-party payors on the benefits of our product candidates may require significant resources and may never be successful.

If our products are not accepted by the market or if users of our products are unable to obtain adequate coverage of and reimbursement for our products from government and other third-party payors, our revenues and profitability will suffer.

Our ability to commercialize our products successfully will depend in significant part on pricing and cost effectiveness, including our ability to produce a product at a competitive price and our ability to obtain appropriate coverage of and reimbursement for our products and related treatments from governmental authorities, private health insurers and other organizations, such as health maintenance organizations, or HMOs. Third-party payors are increasingly challenging the prices charged for medical products and services. We cannot provide any assurances that third-party payors will consider our products cost-effective or provide coverage of and reimbursement for our products, in whole or in part.

Uncertainty exists as to the coverage and reimbursement status of newly approved medical products and services and newly approved indications for existing products. Third-party payors may conclude that our products are less safe, less clinically effective or less cost-effective than existing products, and third-party payors may not approve our products for coverage and reimbursement. If we are unable to obtain adequate coverage of and reimbursement for our products from third-party payors, physicians may limit how much or under what circumstances they will prescribe or administer them. Such reduction or limitation in the use of our products could cause our sales to suffer. Even if third-party payors make reimbursement available, payment levels may not be sufficient to make the sale of our products profitable.

Market acceptance and sales of our current or future product candidates will depend in large part on global reimbursement policies and may be affected by future healthcare reform measures, both in the U.S. and other key international markets. For example, continuing health care reform in the U.S. will control or significantly influence the purchase of medical services and products, and may result in inadequate coverage of and reimbursement for our products. Many third-party payors are pursuing various ways to reduce pharmaceutical costs, including the use of formularies. The market for our products depends on access to such formularies, which are lists of medications for which third-party payors provide reimbursement. These formularies are increasingly restricted, and pharmaceutical companies face significant competition in their efforts to place their products on formularies. This increased competition has led to a downward pricing pressure in the industry. The cost containment measures that third-party payors, including government payors, are instituting could have a material adverse effect on our ability to operate profitably.

Internationally, the success of our product candidates, if approved, will depend largely on obtaining and maintaining government reimbursement, because in many European countries patients are unlikely to use

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prescription drugs that are not reimbursed by their governments. Negotiating prices with governmental authorities can delay commercialization by 12 months or more. Reimbursement policies may adversely affect our ability to sell our product candidates, if approved, on a profitable basis. In many international markets, governments control the prices of prescription pharmaceuticals, including through the implementation of reference pricing, price cuts, rebates, revenue-related taxes and profit control, and expect prices of prescription pharmaceuticals to decline over the life of the product or as volumes increase. Recently, many countries in the European Union have increased the amount of discounts required on pharmaceutical products, which may impact the reimbursement rates and timing to launch product candidates. Such pricing practices may affect our ability to achieve profitability or expected rates of growth in revenue or results of operations, which in turn could adversely affect our business, financial condition and results of operations.

If we fail to identify and license or acquire other product candidates, we will not be able to expand our business over the long term.

Because we do not have internal discovery capabilities, our business over the long term is substantially dependent on our ability to license or acquire product candidates and further develop them for commercialization. The success of this strategy depends upon our ability to identify, select and acquire the right product candidates. We have limited experience identifying, negotiating and implementing economically viable product candidate acquisitions or licenses, which is a lengthy and complex process. Also, the market for licensing and acquiring product candidates is intensely competitive, and many of our competitors have greater resources than we do. We may not have the requisite capital resources to consummate product candidate acquisitions or licenses that we identify to fulfill our strategy.

Moreover, product candidate acquisitions that we do complete involve numerous risks, including:

difficulties in integrating the development program for the acquired product candidate into our existing operations;

diversion of financial and management resources from existing operations;

risks of entering new markets or technologies and of receiving regulatory approval;

inability to generate sufficient revenues to offset acquisition costs; and

delays that may result from our having to perform unanticipated preclinical trials or other tests on the product candidate.

If we are not successful in identifying and licensing or acquiring other product candidates over the long term, we will not be able to grow our revenues with sales from new products beyond those revenues, if any, from any approved products derived from our existing product candidates, and we may fail to achieve or sustain profitability.

We are dependent on our management team, Yuichi Iwaki, M.D., Ph.D., and experienced scientific staff, and if we are unable to retain, motivate and attract key personnel, our product development programs may be delayed and we may be unable to develop successfully or commercialize our product candidates.

We are dependent upon the continued services of our executive officers and other key personnel, particularly Yuichi Iwaki, M.D., Ph.D., a founder of the company and our President and Chief Executive Officer, who has been instrumental in our ability to in-license product candidates from Japanese pharmaceutical companies and secure financing from Japanese institutions. The relationships that certain of our key managers have cultivated with pharmaceutical companies from whom we license product candidates and to whom we expect to out-license product candidates make us particularly dependent upon their continued services with us, whether through employment, service on our board of directors or a consulting agreement. We are also substantially dependent on the continued services of clinical development personnel because of the highly

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technical nature of our product development programs. We are not presently aware of any plans of our executive officers or key personnel to retire or leave employment with the company. Each of our executive officers is party to an employment agreement that continues in effect until the earliest of termination of employment by (i) consent of the parties, (ii) cause or other material breach of the agreement, (iii) death or permanent disability or (iv) three months' written notice. Following termination of employment, these individuals may engage in other businesses that may compete with us.

If we acquire or license new product candidates, our success will depend on our ability to attract, retain and motivate highly qualified management and scientific personnel to manage the development of these new product candidates. In particular, our product development programs depend on our ability to attract and retain highly experienced clinical development and regulatory personnel. However, we face competition for experienced scientists and other technical and professional personnel from numerous companies and academic and other research institutions. Competition for qualified personnel is particularly intense in the San Diego, California area, where our corporate headquarters is located. Our short operating history and the uncertainties attendant to being a development stage biopharmaceutical company could impair our ability to attract and retain personnel and impede the achievement of our development and commercialization objectives. In addition, we have scientific and clinical advisors who assist us in our product development and clinical strategies. These third parties are not our employees and may have commitments to, or contracts with, other entities that may limit their availability to us, or may have arrangements with other companies to assist in the development of products that may compete with our product candidates.

Although we have employment agreements with key members of management, each of our employees, subject to applicable notice requirements, may terminate his or her employment at any time. We do not carry key person insurance covering members of senior management. If we lose any of our key management personnel, we may not be able to find suitable replacements, which would adversely affect our business.

If we are unable to establish sales, marketing and distribution capabilities, whether independently or with third parties, we will be unable to successfully commercialize our product candidates.

To date, we have not sold, marketed or distributed any pharmaceutical products. If we are successful in obtaining regulatory approvals for any of our product candidates or acquiring other approved products, we will need to establish sales, marketing and distribution capabilities on our own or with partners in order to commercialize an approved product. The acquisition or development of an effective sales and marketing infrastructure will require a significant amount of our financial resources and time and could negatively impact our commercialization efforts, including delay of a product launch. We may be unable to establish and manage a sufficient or effective sales force in a timely or cost-effective manner, if at all, and any sales force we do establish may not be capable of generating demand for our products, therefore hindering our ability to generate revenues and achieve or sustain profitability. In addition, if we are unable to develop internal sales capabilities, we will need to contract with third parties or establish a partnership to market and sell the product. If we are unable to establish adequate sales, marketing and distribution capabilities, whether independently or with third parties, we may not be able to generate any product revenues, may generate increased expenses and may never become profitable. In addition, although we intend to establish strategic collaborations to market any products approved for sale by regulatory authorities outside of the U.S., we may be required to market our product candidates outside of the U.S. directly if we are unable to establish such collaborations. In that event, we may need to build a corresponding international sales and marketing capability with technical expertise and with supporting distribution capabilities.

Health care reform measures could adversely affect our business.

The business and financial condition of pharmaceutical and biotechnology companies are affected by the efforts of governmental and third-party payors to contain or reduce the costs of health care. In the U.S. and in foreign jurisdictions, there have been, and we expect that there will continue to be, a number of legislative and regulatory proposals aimed at changing the health care system. For example, in some countries, pricing of

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prescription drugs is subject to government control, and we expect to continue to see proposals to implement similar controls in the U.S. Another example of proposed reform that could affect our business is drug reimportation into the U.S. Moreover, the pendency or approval of such proposals could result in a decrease in our stock price or our ability to raise capital or to obtain strategic partnerships or licenses. More recently, the President signed into law the Patient Protection and Affordable Care Act, which imposes numerous provisions over a four-year period. We have begun to assess the impact of this Act, but, at this early stage the likely impact cannot be ascertained with any degree of certainty.

We may be sued for product liability, which could result in substantial liabilities that exceed our available resources and damage our reputation.

The development and commercialization of drug products entails significant product liability risks. Product liability claims may arise from use of any of our product candidates in clinical trials and the commercial sale of any approved products. If we cannot successfully defend ourselves against these claims, we will incur substantial liabilities. Regardless of merit or eventual outcome, product liability claims may result in:

withdrawal of clinical trial participants;

termination of clinical trial sites or entire clinical trial programs;

decreased demand for our product candidates;

impairment of our business reputation;

costs of related litigation;

substantial monetary awards to patients or other claimants;

loss of revenues; and

the inability to commercialize our product candidates.

We currently have insurance that covers our clinical trials. We believe our current insurance coverage is reasonably adequate at this time; however, our insurance coverage may not reimburse us or may not be sufficient to reimburse us for all expenses or losses we may suffer. In addition, we will need to increase and expand this coverage as we commence additional clinical trials, as well as larger scale clinical trials, and in the event that any of our product candidates is approved for commercial sale. This insurance may be prohibitively expensive or may not fully cover our potential liabilities. In addition, our inability to obtain sufficient insurance coverage at an acceptable cost or otherwise to protect against potential product liability claims could prevent or inhibit the regulatory approval or commercialization of products that we or one of our collaborators develop. Successful product liability claims could have a material adverse effect on our business and results of operations. Liability from such claims could exceed our total assets if we do not prevail in any lawsuit brought by a third party alleging that an injury was caused by one of our product candidates.

We may need to increase the size of our organization, and we may encounter difficulties managing our growth, which could adversely affect our results of operations.

We have 13 full-time employees as of the date of this prospectus supplement. If we are successful in securing a strategic collaboration or raising additional capital, our management, personnel, systems and facilities currently in place may not be adequate to support the company's needs. For example, we may hire additional personnel in clinical development, regulatory affairs and business development to further strengthen our core competencies or choose to develop sales, marketing and distribution capabilities for certain of our product candidates. Our need to effectively

manage our operations, growth and product development programs requires that we:

manage our clinical trials effectively;

manage our internal development efforts effectively while carrying out our contractual obligations to licensors and other third parties;

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ensure that our consultants, CROs and other service providers successfully carry out their contractual obligations, provide high quality results and meet expected deadlines; and

continue to improve our operational, financial and management controls, reporting systems and procedures.

We may be unable to successfully implement these tasks on a larger scale, which may impact our ability to timely achieve our development and commercialization goals, if at all.

We expect that our results of operations will fluctuate, which may make it difficult to predict our future performance from period to period.

Our quarterly operating results have fluctuated in the past and are likely to continue to do so in the future. Some of the factors that could cause our operating results to fluctuate from period to period include:

the status of development of our product candidates and, in particular, the advancement or termination of activities related to our product development programs and the timing of any milestone payments payable under our licensing agreements;

the execution of other collaboration, licensing and similar arrangements and the timing of payments we may make or receive under these arrangements;

variations in the level of expenses related to our product development programs;

the unpredictable effects of collaborations during these periods;

the timing of our satisfaction of applicable regulatory requirements, if at all;

the rate of expansion of our clinical development and other internal research and development efforts;

the costs of any litigation;

the effect of competing technologies and products and market developments; and

general and industry-specific economic conditions.

We believe that quarterly or yearly comparisons of our financial results are not necessarily meaningful and should not be relied upon as indications of our future performance.

Our management has broad discretion over the use of our cash, and we may not use our cash effectively, which could adversely affect our results of operations.

Our management has significant flexibility in applying our cash resources and could use these resources for corporate purposes that do not increase our market value or in ways with which our stockholders may not agree. We may use our cash resources for corporate purposes that do not yield a significant return or any return at all for our stockholders, which may cause our stock price to decline.

We will continue to incur significant increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives.

As a public company, we are required to comply with the Sarbanes-Oxley Act of 2002, as well as rules and regulations implemented by the SEC, The Nasdaq Stock Market, or Nasdaq, and Japanese securities laws, and incur significant legal, accounting and other expenses as a result. These rules impose various requirements on public companies, including requiring the establishment and maintenance of effective disclosure and financial controls and appropriate corporate governance practices. Our management and other personnel have devoted and will continue to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations increase our legal and financial compliance costs and may make it more difficult and expensive for us to renew our director and officer liability insurance, and may result in imposition of reduced policy limits and coverage.

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The Sarbanes-Oxley Act requires that we maintain effective internal controls for financial reporting and disclosure controls and procedures. Our listing obligations under the Nasdaq Market (formerly the Hercules Market until its closure in 2010) of the Osaka Securities Exchange, or OSE, also require that we comply either with Section 404 of the Sarbanes-Oxley Act or equivalent regulations in Japan and we elected to comply with Section 404. As a result, we are required to perform an evaluation of our internal control over financial reporting to allow management to report on the effectiveness of those controls, as required by Section 404. We are subject to attestation by our registered public accounting firm on our report regarding internal control over financial reporting for the year ended December 31, 2011 under Japanese securities laws. Our efforts to comply with Section 404 and related regulations have required, and continue to require, the commitment of significant financial and managerial resources. We cannot be certain that a material weakness will not be identified when we test the effectiveness of our controls in the future. If a material weakness is identified, we could be subject to sanctions or investigations by Nasdaq, the SEC, the OSE or other regulatory authorities, which would require additional financial and management resources, costly litigation or a loss of public confidence in our internal controls, which could have an adverse effect on the market price of our stock.

Additionally, in July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, was enacted. There are significant corporate governance and executive compensation related provisions in the Dodd-Frank Act that require the SEC to adopt additional rules and regulations in these areas such as say on pay and proxy access. To maintain high standards of corporate governance and public disclosure, we intend to invest all reasonably necessary resources to comply with such compliance programs and rules and all other evolving standards. These investments may result in increased general and administrative costs and a diversion of our management's time and attention from strategic revenue generating and cost management activities.

Our business and operations would suffer in the event of system failures.

Despite the implementation of security measures, our internal computer systems are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. Any system failure, accident or security breach that causes interruptions in our operations could result in a material disruption of our drug development programs, including delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach results in a loss or damage to our data or applications, or inappropriate disclosure of confidential or proprietary information, we may incur liability and the further development of our product candidates may be delayed.

A variety of risks associated with operating our business and marketing our products internationally could materially adversely affect our business.

A significant amount of our business activity is outside of the United States. We face risks associated with our international operations, including possible unfavorable regulatory, pricing and reimbursement, political, tax and labor conditions, which could harm our business. We are subject to numerous risks associated with international business activities, including, but not limited to:

compliance with differing or unexpected regulatory requirements for our products;

difficulties in staffing and managing foreign operations;

in certain circumstances, including with respect to the commercialization of our product candidates in Europe, increased dependence on the commercialization efforts of our distributors or strategic partners;

foreign government taxes, regulations and permit requirements;

U.S. and foreign government tariffs, trade restrictions, price and exchange controls and other regulatory requirements;

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economic weakness, including inflation, natural disasters, war, events of terrorism or political instability in particular foreign countries;

fluctuations in currency exchange rates, which could result in increased operating expenses and reduced revenues, and other obligations related to doing business in another country;

compliance with tax, employment, immigration and labor laws, regulations and restrictions for employees living or traveling abroad;

workforce uncertainty in countries where labor unrest is more common than in the U.S.;

changes in diplomatic and trade relationships; and

challenges in enforcing our contractual and intellectual property rights, especially in those foreign countries that do not respect and protect intellectual property rights to the same extent as the U.S.

These and other risks associated with our international operations may materially adversely affect our business, financial condition and results of operations.

Risks Related to Our Intellectual Property

Our ability to compete may decline if we do not adequately protect our proprietary rights.

There is the risk that our patents (both those owned by us and those in-licensed) may not provide a competitive advantage, including the risk that our patents expire before we obtain regulatory and marketing approval for one or more of our product candidates, particularly our in-licensed patents. Also, our competitors may develop products similar to ours using methods and technologies that are beyond the scope of our intellectual property rights. Composition of matter patents on APIs may provide protection for pharmaceutical products without regard to formulation, method of use, or other type of limitation. We do not have compound patent protection for the API in our MN-166 and MN-001 product candidates, although we do have patent protection for a particular crystalline polymorph of MN-001 and we have composition of matter protection on ibudilast analogs. As a result, competitors that obtain the requisite regulatory approval will be able to offer products with the same API as found in our MN-166 and MN-001 product candidates so long as such competitors do not infringe any methods of use, methods of manufacture, formulation or, in the case of MN-001, specific polymorph patents that we hold or have exclusive rights to through our licensors. For example, we currently rely on method of use patents for MN-166.

It is our policy to consult with our licensors in the maintenance of granted patents we have licensed and in their pursuit of patent applications that we have licensed, but each of our licensors generally remains primarily responsible for or in control of the maintenance of the granted patents and prosecution of the applications. We have limited control, if any, over the amount or timing of resources that each licensor devotes on our behalf, and a licensor may not assign as great a priority to prosecution of these patent applications as we would if we were undertaking such prosecution ourselves. As a result of this lack of control and general uncertainties in the patent prosecution process, we cannot be sure that our licensed patents will be maintained and that any additional patents will ever mature from our licensed applications. Issued U.S. patents require the payment of maintenance fees to continue to be in force. We typically rely on our licensors to do this and their failure to do so could result in the forfeiture of patents not timely maintained. Many foreign patent offices also require the payment of periodic annuities to keep patents and patent applications in good standing. As we generally do not maintain control over the payment of annuities, we cannot be certain that our licensors will timely pay such annuities and that the granted patents and pending patent applications will not become abandoned. For example, certain annuities were not paid in a timely manner with respect to foreign patents licensed under MN-002 (the active metabolite of MN-001) and, as a result, our patent rights may be impaired in those territories. In addition, our licensors may have selected a limited amount of foreign patent protection, and therefore applications have not been filed in, and foreign patents may not have been perfected in, all commercially significant countries.

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The patent protection of our product candidates and technology involves complex legal and factual questions. Most of our license agreements give us a right, but not an obligation, to enforce our patent rights. To the extent it is necessary or advantageous for any of our licensors cooperation in the enforcement of our patent rights, we cannot control the amount or timing of resources our licensors devote on our behalf or the priority they place on enforcing our patent rights. We may not be able to protect our intellectual property rights against third party infringement, which may be difficult to detect, especially for infringement of patent claims for methods of manufacturing. Additionally, challenges may be made to the ownership of our intellectual property rights, our ability to enforce them or our underlying licenses, which in some cases have been made under foreign laws and may provide different protections than that of U.S. law.

We cannot be certain that any of the patents or patent applications owned by us or our licensors related to our product candidates and technology will provide adequate protection from competing products. Our success will depend, in part, on whether we or our licensors can:

obtain and maintain patents to protect our product candidates;

obtain and maintain any required or desirable licenses to use certain technologies of third parties, which may be protected by patents;

protect our trade secrets and know-how;

operate without infringing the intellectual property and proprietary rights of others;

enforce the issued patents under which we hold rights; and

develop additional proprietary technologies that are patentable.

The degree of future protection for our proprietary rights is uncertain. For example:

we or our licensor might not have been the first to make the inventions covered by each of our pending patent applications or issued patents;

we or our licensor might not have been the first to file patent applications for these inventions;

others may independently develop similar or alternative technologies or duplicate any of our technologies;

it is possible that none of our pending patent applications will result in issued patents;

any patents under which we hold rights may not provide us with a basis for maintaining market exclusivity for commercially viable products, may not provide us with any competitive advantages or may be challenged by third parties as invalid, not infringed or unenforceable under U.S. or foreign laws; or

any of the issued patents under which we hold rights may not be valid or enforceable or may be circumvented successfully in light of the continuing evolution of domestic and foreign patent laws.

Confidentiality agreements with employees and others may not adequately prevent disclosure of our trade secrets and other proprietary information and may not adequately protect our intellectual property, which could limit our ability to compete.

Because we operate in the highly technical field of research and development of small molecule drugs, we rely in part on trade secret protection in order to protect our proprietary trade secrets and unpatented know-how. However, trade secrets are difficult to protect, and we cannot be certain that others will not develop the same or similar technologies on their own. We have taken steps, including entering into confidentiality agreements with our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors, to protect our trade secrets and unpatented know-how. These agreements generally require that the other party keep confidential and not disclose to third parties all confidential information developed by the party or made known

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to the party by us during the course of the party's relationship with us. We also typically obtain agreements from these parties which provide that inventions conceived by the party in the course of rendering services to us will be our exclusive property. However, these agreements may not be honored and may not effectively assign intellectual property rights to us. Further, we have limited control, if any, over the protection of trade secrets developed by our licensors. Enforcing a claim that a party illegally obtained and is using our trade secrets or know-how is difficult, expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the U.S. may be less willing to protect trade secrets or know-how. The failure to obtain or maintain trade secret protection could adversely affect our competitive position.

A dispute concerning the infringement or misappropriation of our proprietary rights or the proprietary rights of others could be time consuming and costly, and an unfavorable outcome could harm our business.

There is significant litigation in our industry regarding patent and other intellectual property rights. While we are not currently subject to any pending intellectual property litigation, and are not aware of any such threatened litigation, we may be exposed to future litigation by third parties based on claims that our product candidates, their methods of use, manufacturing or other technologies or activities infringe the intellectual property rights of such third parties. There are many patents relating to chemical compounds and methods of use. If our compounds or their methods of use or manufacture are found to infringe any such patents, we may have to pay significant damages or seek licenses under such patents. We have not conducted comprehensive searches for unexpired patents issued to third parties relating to our product candidates. Consequently, no assurance can be given that unexpired, third-party patents containing claims covering our product candidates, their methods of use or manufacture do not exist. Moreover, because some patent applications in the U.S. may be maintained in secrecy until the patents are issued, and because patent applications in the U.S. and many foreign jurisdictions are typically not published until 18 months after filing, we cannot be certain that others have not filed patent applications that will mature into issued patents that relate to our current or future product candidates and which could have a material effect in developing and commercializing one or more of our product candidates. The owner of a patent that is arguably infringed can bring a civil action seeking to enjoin an accused infringer from importing, making, marketing, distributing, using or selling an infringing product. We may need to resort to litigation to enforce our intellectual property rights or to seek a declaratory judgment concerning the scope, validity or enforceability of third-party proprietary rights. Similarly, we may be subject to claims that we have inappropriately used or disclosed trade secrets or other proprietary information of third parties. If we become involved in litigation, it could consume a substantial portion of our managerial and financial resources, regardless of whether we win or lose. Some of our competitors may be able to sustain the costs of complex intellectual property litigation more effectively than we can because they have substantially greater resources. We may not be able to afford the costs of litigation. Any legal action against us or our collaborators could lead to:

payment of actual damages, royalties, lost profits, potential enhanced damages and attorneys' fees, if any infringement for which we are found liable is deemed willful, or a case against us is determined by a judge to be exceptional;

injunctive or other equitable relief that may effectively block our ability to further develop, commercialize and sell our products;

having to enter into license arrangements that may not be available on reasonable or commercially acceptable terms; or

significant cost and expense, as well as distraction of our management from our business.

As a result, we could lose our ability to develop and commercialize current or future product candidates.

We may be subject to claims that our employees have wrongfully used or disclosed alleged trade secrets of their former employers.

As is common in the biotechnology and pharmaceutical industry, we employ individuals who were previously employed at other biotechnology or pharmaceutical companies, including our competitors or potential

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competitors. Although no claims against us are currently pending, we may be subject to claims that these employees or we have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

Risks Related to the Securities Markets and Investment in Our Common Stock

Our stock price may be volatile, and you may not be able to resell our shares at a profit or at all.

Despite the listing of our common stock on the Nasdaq Global Market and the Jasdaq Market of the Osaka Securities Exchange in Japan, trading volume in our securities has been light and an active trading market may not develop for our common stock. In June 2012, our average trading volume was 29,620 shares per day on the Nasdaq Global Market and 46,219 shares per day on the Jasdaq Market.

The market prices for securities of biopharmaceutical and biotechnology companies, and early-stage drug discovery and development companies like us in particular, have historically been highly volatile and may continue to be highly volatile in the future. For example, since the date of our initial public offering in Japan on February 8, 2005 through June 30, 2012, our common stock has traded as high as approximately \$42.00 and as low as approximately \$1.40. The following factors, in addition to other risk factors described in this section, may have a significant impact on the market price of our common stock:

the development status of our product candidates, including clinical trial results and determinations by regulatory authorities with respect to our product candidates, and particularly our prioritized product candidates;

the initiation, termination, or reduction in the scope of any collaboration arrangements or any disputes or developments regarding such collaborations;

FDA or foreign regulatory actions, including failure to receive regulatory approval for any of our product candidates;

announcements of technological innovations, new commercial products or other material events by us or our competitors;

disputes or other developments concerning our intellectual property rights;

market conditions in the pharmaceutical and biotechnology sectors;

actual and anticipated fluctuations in our quarterly or annual operating results;

price and volume fluctuations in the overall stock markets;

any potential delisting of our securities;

changes in, or failure to meet, securities analysts' or investors' expectations of our financial performance;

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additions or departures of key personnel;

discussions of our business, management, products, financial performance, prospects or stock price by the financial and scientific press and online investor communities;

litigation or public concern about the safety of our potential products;

public concern as to, and legislative action with respect to, the pricing and availability of prescription drugs or the safety of drugs and drug delivery techniques; or

regulatory developments in the U.S. and in foreign countries.

Broad market and industry factors, as well as economic and political factors, also may materially adversely affect the market price of our common stock.

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We may become involved in securities class action litigation that could divert management's attention and harm our business.

The stock markets have from time to time experienced significant price and volume fluctuations that have affected the market prices for the common stock of biotechnology and biopharmaceutical companies. These broad market fluctuations may cause the market price of our common stock to decline. In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because biotechnology and biopharmaceutical companies have experienced significant stock price volatility in recent years. We may become involved in this type of litigation in the future. Litigation often is expensive and diverts management's attention and resources, which could adversely affect our business.

Future sales of our common stock may cause our stock price to decline and may make it difficult to sell your shares.

Sales of substantial amounts of our common stock, or the availability of such common stock for sale, could adversely affect the prevailing market prices for our common stock. If this occurs and continues, it could impair our ability to raise additional capital through the sale of securities should we desire to do so. In addition, it may be difficult, or even impossible, to find a buyer for shares of our common stock.

We have also registered all common stock that we may issue under our current employee benefits plans and upon exercise of warrants. As a result, these shares can be freely sold in the public market upon issuance, subject to the terms of the underlying agreements governing the grants and the restrictions of the securities laws. In addition, our directors and officers may in the future establish programmed selling plans under Rule 10b5-1 of the Exchange Act, for the purpose of effecting sales of our common stock. If any of these events cause a large number of our shares to be sold in the public market, the sales could reduce the trading price of our common stock and impede our ability to raise future capital.

Anti-takeover provisions in our charter documents and under Delaware law may make an acquisition of us more complicated and the removal and replacement of our directors and management more difficult.

Our restated certificate of incorporation and amended and restated bylaws contain provisions that may delay or prevent a change in control, discourage bids at a premium over the market price of our common stock or adversely affect the market price of our common stock and the voting and other rights of the holders of our common stock. These provisions may also make it difficult for stockholders to remove and replace our board of directors and management. These provisions:

establish that members of the board of directors may be removed only for cause upon the affirmative vote of stockholders owning at least a majority of our capital stock;

authorize the issuance of blank check preferred stock that could be issued by our board of directors in a discriminatory fashion designed to increase the number of outstanding shares and prevent or delay a takeover attempt;

limit who may call a special meeting of stockholders;

establish advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon at stockholder meetings;

prohibit our stockholders from making certain changes to our Restated Certificate of Incorporation or Amended and Restated Bylaws except with 66 2/3 percent stockholder approval; and

provide for a classified board of directors with staggered terms.

We also may be subject to provisions of the Delaware corporation law that, in general, prohibit any business combination with a beneficial owner of 15 percent or more of our common stock for three years unless the

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holder's acquisition of our stock was approved in advance by our board of directors. Although we believe these provisions collectively provide for an opportunity to receive higher bids by requiring potential acquirers to negotiate with our board of directors, they would apply even if the offer may be considered beneficial by some stockholders. In any event, these provisions may delay or prevent a third party from acquiring us. Any such delay or prevention could cause the market price of our common stock to decline.

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

We have paid no cash dividends on any of our classes of capital stock to date, and we currently intend to retain our future earnings, if any, to fund the development and growth of our business. We do not anticipate paying any cash dividends on our common stock in the foreseeable future. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

Risks Related to this Offering

Our management team will have broad discretion over the use of the net proceeds from this offering.

Our management will use its discretion to direct the net proceeds from this offering. We intend to use all of the net proceeds, together with cash on hand, for general corporate purposes. General corporate purposes may include working capital, capital expenditures, development costs, strategic investments or possible acquisitions. Our management's judgments may not result in positive returns on your investment and you will not have an opportunity to evaluate the economic, financial or other information upon which our management bases its decisions.

The sale of our common stock to Aspire Capital may cause substantial dilution to our existing shareholders and the sale of the shares of common stock acquired by Aspire Capital could cause the price of our common stock to decline.

This prospectus supplement relates to the \$1,000,000 of our common stock that Aspire Capital will purchase immediately upon execution of the Purchase Agreement and the additional \$19 million of our common stock that we may issue and sell to Aspire Capital. It is anticipated that the additional shares offered to Aspire Capital in this offering will be sold over a period of up to 24 months from the date of this prospectus supplement. The number of shares ultimately offered for sale to Aspire Capital under this prospectus supplement is dependent upon the number of shares we elect to sell to Aspire Capital under the Purchase Agreement and the number of shares we are permitted to sell under applicable rules and regulations. Depending upon market liquidity at the time, sales of shares of our common stock under the Purchase Agreement may cause the trading price of our common stock to decline.

We may ultimately sell to Aspire Capital all, some or none of the \$19 million of additional common stock that, together with the \$1,000,000 of our common stock sold upon execution of the Purchase Agreement and the 363,636 shares of our common stock issued as a commitment fee, is the subject of this prospectus supplement. After Aspire Capital has acquired shares under the Purchase Agreement, it may sell all, some or none of those shares. Sales to Aspire Capital by us pursuant to the Purchase Agreement under this prospectus supplement may result in substantial dilution to the interests of other holders of our common stock. The sale of a substantial number of shares of our common stock to Aspire Capital in this offering, or anticipation of such sales, could make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect sales. However, we have the right to control the timing and amount of any sales of our shares to Aspire Capital and the Purchase Agreement may be terminated by us at any time at our discretion without any cost to us.

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FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus, the documents we have filed with the SEC that are incorporated by reference and any free writing prospectus that we have authorized for use in connection with this offering 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 statements relate to future events or to our future operating or financial performance and involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. Forward-looking statements may include, but are not limited to, statements about:

the potential for our product candidates to receive regulatory approval for one or more indications on a timely basis, or at all;

the success, timing, design and results of clinical trials for our product candidates, including any delays in commencing or completing enrollment for our ongoing or planned clinical trials;

plans for future clinical trials, regulatory submissions and the outcome of meetings with regulators;

unexpected adverse side effects or inadequate therapeutic efficacy of our product candidates that could delay or prevent regulatory approval or commercialization or that could result in product liability claims;

other difficulties or delays in development, testing, manufacturing and marketing of and obtaining regulatory approval for our product candidates;

the continuation and success of our collaborations with our licensors;

the performance of third party service providers and manufacturers;

intellectual property rights and disputes, including the scope and validity of patent protection for our product candidates;

the size and growth of the potential markets for our product candidates and our ability to serve those markets;

the potential to attract one or more strategic partners and terms of any related transactions;

intense competition and our ability to compete if any of our product candidates are ever commercialized;

regulatory developments in the United States and foreign countries;

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the potential impact of uncertainties in the credit and capital markets or a future deterioration of these markets on our investment portfolio; and

our ability to raise sufficient capital when needed, or at all.

In some cases, you can identify forward-looking statements by terms such as *may*, *will*, *should*, *could*, *would*, *expects*, *plans*, *anticipates*, *believes*, *estimates*, *projects*, *predicts*, *potential* and similar expressions intended to identify forward-looking statements. These statements represent our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. We discuss many of these risks in greater detail under the heading

Risk Factors contained in this prospectus supplement and in our SEC filings. Also, these forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement.

You should read this prospectus supplement, the accompanying prospectus, the documents we have filed with the SEC that are incorporated by reference and any free writing prospectus that we have authorized for use

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in connection with this offering completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements.

You should rely only on the information contained, or incorporated by reference, in this prospectus supplement, the accompanying prospectus and any free writing prospectus that we have authorized for use in connection with this offering. We have not authorized anyone to provide you with different information. The securities offered under this prospectus are not being offered in any state where the offer is not permitted. You should not assume that the information contained in this prospectus supplement or the accompanying prospectus is accurate as of any date other than the date on the front of this prospectus supplement or the accompanying prospectus, as applicable, or that any information incorporated by reference in this prospectus supplement or the accompanying prospectus is accurate as of any date other than the date of the document so incorporated by reference. Unless required by law, we undertake no obligation to update or revise any forward-looking statements to reflect new information or future events or developments. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements.

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USE OF PROCEEDS

We intend to use the net proceeds from the sale of the securities under this prospectus supplement to fund our research and development efforts, and for general corporate purposes, including working capital. Specifically, we intend to use a portion of such net proceeds to fund development work for MN-221 and for other research and development on MN-166/AV411. We may also use a portion of the net proceeds to acquire or invest in complementary businesses, technologies, product candidates or other intellectual property, although we have no present commitments or agreements to do so.

The amounts and timing of these expenditures will depend on a number of factors, such as the timing and progress of our research and development efforts, technological advances and the competitive environment for our product candidates. As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering. Accordingly, we will retain broad discretion over the use of these proceeds. Pending use of the net proceeds as described above, we intend to temporarily invest the proceeds in short and long-term interest bearing instruments. Pending application of the net proceeds as described above, we expect to invest the net proceeds in short-term, investment-grade securities.

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Table of Contents**DILUTION**

Our net tangible book value as of June 30, 2012 was \$3.5 million, or \$0.21 per share of common stock. Net tangible book value per share is calculated by subtracting our total liabilities from our total tangible assets, which is total assets less intangible assets, and dividing this amount by the number of shares of common stock outstanding. After giving effect to (i) the issuance of the 363,636 Commitment Shares, (ii) the initial sale of the 606,060 Initial Shares, at a purchase price of \$1.65 per share, and (iii) the sale of 2,261,400 additional shares of common stock (the maximum number of additional Purchase Shares that can be sold so as not to exceed the 19.99% of our outstanding common stock on the date of the Purchase Agreement (the Exchange Cap)) at an assumed offering price of \$8.40 per share, and after deducting estimated offering commissions and expenses payable by us, our net tangible book value as of June 30, 2012 would have been \$22.4 million, or \$1.22 per share of common stock. This represents an immediate increase in the net tangible book value of \$1.01 per share to our existing stockholders and an immediate and substantial dilution in net tangible book value of \$7.18 per share to new investors. The following table illustrates this per share dilution:

| | |
|---|---------|
| Assumed offering price per share | \$ 8.40 |
| Net tangible book value per share as of June 30, 2012 | \$ 0.21 |
| Increase per share attributable to new investors | 1.01 |
| As-adjusted net tangible book value per share after this offering | 1.22 |
| Net dilution per share to new investors | \$ 7.18 |

The shares sold in this offering in addition to the Commitment Shares and the Initial Shares, if any, will be sold from time to time at various prices. An increase of \$1.00 per share in the price at which the shares are sold from the assumed offering price of \$8.40 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$19.0 million is sold at that price, would increase our adjusted net tangible book value per share after the offering to \$1.23 per share and would increase the dilution in net tangible book value per share to new investors in this offering to \$8.17 per share, after deducting estimated aggregate offering expenses payable by us. This information is supplied for illustrative purposes only.

The calculations above are based upon 16,163,565 shares of common stock outstanding as of August 16, 2012 and exclude:

3,492,914 shares of common stock reserved for the exercise of options outstanding at a weighted average exercise price of \$5.10;

312,819 shares of common stock reserved for issuance under our stock incentive programs;

2,998,687 shares of common stock reserved for the exercise of warrants outstanding at a weighted-average exercise price of \$3.37;

269,442 shares of common stock reserved for issuance under our employee stock purchase program; and

2,200,000 shares of common stock reserved for the conversion of shares of Series B Convertible Preferred Stock.

Table of Contents**PRICE RANGE OF COMMON STOCK**

Since December 7, 2006, our common stock has been listed on the NASDAQ Global Market under the symbol MNOV. Prior to that time there was no public market for our stock. The following table lists quarterly information on the price range of our common stock based on the high and low reported sale prices for our common stock as reported by the NASDAQ Global Market for the periods indicated below, respectively.

| | High | Low |
|---|---------|---------|
| 2010 | | |
| First Quarter | \$ 9.00 | \$ 6.09 |
| Second Quarter | 7.51 | 4.75 |
| Third Quarter | 6.40 | 4.44 |
| Fourth Quarter | 5.95 | 4.51 |
| 2011 | | |
| First Quarter | \$ 5.90 | \$ 2.56 |
| Second Quarter | 2.72 | 1.94 |
| Third Quarter | 3.08 | 1.88 |
| Fourth Quarter | 2.44 | 1.60 |
| 2012 | | |
| First Quarter | \$ 3.38 | \$ 1.62 |
| Second Quarter | 3.95 | 1.29 |
| Third Quarter (through August 20, 2012) | 2.45 | 1.56 |

On August 20, 2012, the last reported sale price of our common stock on The NASDAQ Global Market was \$1.88 per share. As of August 20, 2012, there were approximately 6,300 holders of record of our common stock. The number of record holders does not include shares held in street name through brokers.

DIVIDEND POLICY

We have never declared or paid dividends on our common stock. We currently expect to retain future earnings, if any, for use in the operation and expansion of our business and do not anticipate paying any cash dividends in the foreseeable future. Any future determination to pay dividends on our common stock is subject to the discretion of our Board of Directors and will depend upon various factors, including, without limitation, our results of operations and financial condition.

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THE ASPIRE TRANSACTION

General

On August 20, 2012, we entered into the Common Stock Purchase Agreement (the "Purchase Agreement"), pursuant to which we may issue and sell shares of our common stock having an aggregate offering price of up to \$20.6 million from time to time to Aspire Capital. In accordance with the terms of the Purchase Agreement, we agreed sell the Initial Shares to Aspire Capital at a purchase price of \$1,000,000 immediately upon the execution of the Purchase Agreement, issue the Commitment Shares to Aspire Capital in consideration for entering into the Purchase Agreement, and sell up to an additional \$19 million of shares of common stock to Aspire Capital over a 24-month period.

As of August 20, 2012, there were 16,163,565 shares of our common stock outstanding (12,771,384 shares held by non-affiliates) excluding the shares offered to Aspire Capital pursuant to this prospectus supplement. If all \$20.6 million of the common stock offered hereby were issued and outstanding as of the date hereof (without taking into account the potential application of the 19.99% Exchange Cap limitation), 11,076,078 shares would be issued under the Purchase Agreement (assuming the issuance of the Commitment Shares and the Initial Shares and a purchase price of \$1.88 per share, the last reported sale price of our common stock on the NASDAQ Global Market on August 20, 2012, for all additional Purchase Shares) and would represent approximately 40.7% of the total common stock outstanding or 46.5% of the non-affiliate shares of common stock outstanding as of the date hereof. However, unless approved by the stockholders, the number of shares that may be issued and sold under the Purchase Agreement is limited to 3,231,096 shares, or 19.99% of the total common stock outstanding as of the date of the Purchase Agreement, and we currently do not intend to seek such stockholder approval. The number of shares of our common stock ultimately offered for sale to Aspire Capital is dependent upon the number of shares we elect to sell to Aspire Capital under the Purchase Agreement, the Exchange Cap and other limitations under applicable rules and regulations.

We are filing this prospectus supplement with regard to the offering of the Commitment Shares, the Initial Shares and the Purchase Shares that we may sell, up to an aggregate offering price of up to \$20.6 million, to Aspire Capital pursuant to the Purchase Agreement.

There are no trading volume requirements or restrictions under the Purchase Agreement, and we will control the timing and amount of any sales of our common stock to Aspire Capital. Under the terms of the Purchase Agreement, Aspire Capital has no right to require that we offer any Purchase Shares for sale, but Aspire Capital is obligated to purchase any such Purchase Shares from us as we direct in accordance with the Purchase Agreement. There are no limitations on use of proceeds, financial or business covenants, restrictions on future fundings, rights of first refusal, participation rights, penalties or liquidated damages in the Purchase Agreement. We did not pay any additional placement agent fees or any additional amounts to reimburse or otherwise compensate Aspire Capital in connection with the transaction, other than the Commitment Shares offered in consideration for entering into the Purchase Agreement. The Purchase Agreement may be terminated by us at any time, at our discretion, without any penalty or cost to us, on one business day's notice.

Purchase Of Shares Under The Purchase Agreement

We will sell the Initial Shares to Aspire Capital upon execution of the Purchase Agreement for the purchase price of \$1,000,000. Thereafter, on any business day on which the closing sale price of our common stock equals or exceeds \$1.00 per share, over the 24-month term of the Purchase Agreement, we have the right, in our sole discretion, to present Aspire Capital with a purchase notice (each a "Purchase Notice"), directing Aspire Capital (as principal) to purchase up to 50,000 shares of our common stock per business day at the applicable Purchase Price (as defined below); however, no sale pursuant to such Purchase Notice may exceed five hundred thousand dollars (\$500,000) per business day, unless we and Aspire Capital mutually agree. We also may mutually agree

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with Aspire Capital to increase the number of Purchase Shares that may be sold per business day up to an additional 1,000,000 shares per business day. The purchase price per Purchase Share (excluding the Initial Shares) (the Purchase Price) is the lower of:

The lowest sale price for the common stock on the date of sale; and

The arithmetic average of the three lowest closing sale prices for the common stock during the 12 consecutive business days ending on the business day immediately preceding the purchase date of such Purchase Shares.

In addition, on any date on which we submit a Purchase Notice for 50,000 Purchase Shares to Aspire Capital, we also have the right, in our sole discretion, to present Aspire Capital with a volume-weighted average price purchase notice (each, a VWAP Purchase Notice) directing Aspire Capital to purchase a number of shares of our common stock equal to a percentage (not to exceed 15% unless we and Aspire Capital agree, in which case not to exceed 30%) of the aggregate number of shares of our common stock traded on the NASDAQ Global Market on the next business day (the VWAP Purchase Date). The purchase price per Purchase Share pursuant to such VWAP Purchase Notice (the VWAP Purchase Price) is the lower of:

The closing sale price for the common stock on the VWAP Purchase Date as reported by the NASDAQ Global Market; and

95% of the volume-weighted average price for our common stock traded on the NASDAQ Global Market during normal trading hours on the VWAP Purchase Date, subject to the VWAP Purchase Share Volume Maximum and the VWAP Minimum Price Threshold (both as defined below).

However, if the aggregate number of our shares traded on such date exceeds the quotient obtained by dividing (x) the number of shares Aspire Capital will be required to purchase by (y) our requested purchase percentage, each as specified in the VWAP Purchase Notice (such quotient, the VWAP Purchase Share Volume Maximum), the VWAP Purchase Price will be 95% of the volume weighted average price for the portion of such business day until such time as the aggregate shares to be purchased equals the VWAP Purchase Share Volume Maximum. Further, such purchase shall automatically be deemed completed at such time on the VWAP Purchase Date that the sale price of our common stock falls below the greater of (i) 90% of the closing price of our common stock on the trading day immediately preceding the VWAP Purchase Date or (ii) such higher price as set forth by us on the VWAP Purchase Notice (the VWAP Minimum Price Threshold). In such a case, the VWAP Purchase Price will be determined using (a) the percentage set forth in the VWAP Purchase Notice of the aggregate shares traded for such portion of the VWAP Purchase Date prior to the time that the sale price of our common stock fell below the VWAP Minimum Price Threshold and (b) the volume weighted average price of our common stock sold during such portion of the VWAP Purchase Date prior to the time that the sale price of our common stock fell below the VWAP Minimum Price Threshold.

The Purchase Price will be adjusted for any reorganization, recapitalization, non-cash dividend, stock split, or other similar transaction occurring during the trading day(s) used to compute the Purchase Price. We may deliver multiple Purchase Notices to Aspire Capital from time to time during the term of the Purchase Agreement, so long as the most recent purchase has been completed.

Minimum Share Price

Under the Purchase Agreement, the Company and Aspire Capital may not effect any sales of shares of our common stock pursuant to the Purchase Agreement on any business day that the closing sale price of our common stock is less than \$1.00 per share.

Compliance with NASDAQ Global Market Rules

The Purchase Agreement provides that the number of shares that may be sold pursuant to the Purchase Agreement (including the Initial Shares and Commitment Shares) shall be limited by the Exchange Cap to 3,231,096, which represents 19.99% of our outstanding shares as of August 20, 2012, unless stockholder

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approval is obtained to issue more than 19.99%, to be in compliance with the applicable listing maintenance rules of the NASDAQ Global Market. This limitation shall not apply if, at any time the Exchange Cap is reached and at all times thereafter, the average price paid for all shares issued and sold under the Purchase Agreement is equal to or greater than \$1.88, the closing sale price of our common stock on August 20, 2012. We are not required or permitted to issue any shares of common stock under the Purchase Agreement if such issuance would breach our obligations under the rules or regulations of the NASDAQ Global Market or the rules and regulations of the Jsdag Market of the Osaka Securities Exchange. The Company will, in its sole discretion, determine whether to obtain stockholder approval to issue more than 19.99% of its outstanding shares of common stock.

Events of Default

Aspire Capital may terminate the Purchase Agreement upon the occurrence of any of the following events of default:

the effectiveness of any registration statement that is required to be maintained effective pursuant to the terms of the registration rights agreement between us and Aspire Capital lapses for any reason (including, without limitation, the issuance of a stop order) or is unavailable for sale of our shares of common stock in accordance with the terms of the registration rights agreement, and such lapse or unavailability continues for a period of ten consecutive business days or for more than an aggregate of thirty business days in any 365-day period, which is not in connection with a post-effective amendment to any such registration statement or the filing of a new registration statement required to be declared effective by the SEC (in which event such lapse or unavailability may continue for a period of no more than twenty consecutive business days and such period may be extended for an additional twenty business days if we receive a comment letter from the SEC in connection therewith);

the suspension from trading or failure of our common stock to be listed on our principal market for a period of three consecutive business days;

the delisting of our common stock from our principal market, and our common stock is not immediately thereafter trading on the New York Stock Exchange, the NASDAQ Global Select Market, the NASDAQ Capital Market, the NYSE Amex Equities or the OTC Bulletin Board;

the failure for any reason by our transfer agent to issue Purchase Shares that Aspire Capital is entitled to receive under the Purchase Agreement to Aspire Capital within five business days after an applicable purchase date;

any breach by us of the representations or warranties or covenants contained in the Purchase Agreement or any related agreements which could have a material adverse effect on us, subject to a cure period of five business days;

any person commences a proceeding against us pursuant to or within the meaning of any bankruptcy law;

if we, pursuant to any bankruptcy law, (i) commence a voluntary case, (ii) consent to the entry of an order for relief against us in an involuntary case, (iii) consent to the appointment of a custodian for us or for all or substantially all of our property, (iv) make a general assignment for the benefit of our creditors or (v) we become insolvent; or

if a court of competent jurisdiction enters an order or decree under any bankruptcy law that (i) is for relief against us in an involuntary case, (ii) appoints a custodian for all or substantially all of our property or (iii) orders the liquidation of us or any of our subsidiaries.

Our Termination Rights

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We may terminate the Purchase Agreement at any time, in our discretion, without any cost or penalty, upon one business day's notice.

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Aspire Capital has agreed that neither it nor any of its agents, representatives and affiliates shall engage in any direct or indirect short-selling or hedging of our common stock during any time prior to the termination of the Purchase Agreement.

Effect of Performance of the Purchase Agreement on Our Stockholders

The Purchase Agreement does not limit the ability of Aspire Capital to sell any or all of the shares it receives in this offering. It is anticipated that shares in this offering will be sold to Aspire Capital over a period of up to approximately 24 months from the date of this prospectus supplement, or until August 20, 2014. The subsequent resale by Aspire Capital of a significant amount of shares sold to Aspire Capital in this offering at any given time could cause the market price of our common stock to decline or to be highly volatile. Aspire Capital may ultimately purchase all, some or none of the additional common stock offered, together with the Initial Shares, under this prospectus supplement. Aspire Capital may sell all, some or none of the Commitment Shares, Initial Shares and Purchase Shares it acquires. Therefore, sales to Aspire Capital by us pursuant to the Purchase Agreement and this prospectus supplement also may result in substantial dilution to the interests of other holders of our common stock. However, we have the right to control the timing and amount of any sales of our shares to Aspire Capital and the Purchase Agreement may be terminated by us at any time at our discretion without any cost to us.

Amount of Potential Proceeds to be Received Under the Purchase Agreement

Under the Purchase Agreement we will sell the Initial Shares to Aspire Capital for \$1,000,000 and we may sell Purchase Shares having an aggregate offering price of up to \$19.0 million to Aspire Capital from time to time. The number of shares ultimately offered for sale to Aspire Capital in this offering is dependent upon the number of shares we elect to sell to Aspire Capital under the Purchase Agreement. The following table sets forth the amount of proceeds we would receive from Aspire Capital from the sale of shares at varying purchase prices:

| Assumed Average Purchase Price for Sales after the Initial Purchase ¹ | Number of Shares to be Sold ² | Percentage of Outstanding Shares After Giving Effect to the Sale to Aspire Capital ³ | Proceeds from the Sale of Shares to Aspire Capital Under the Purchase Agreement ⁴ |
|--|--|---|--|
| \$1.65 | 2,867,460 | 16.7% | \$ 4,731,310 |
| \$2.00 | 2,867,460 | 16.7% | \$ 5,522,800 |
| \$5.00 | 4,406,060 | 22.8% | \$ 20,000,000 |
| \$10.00 | 2,506,060 | 15.1% | \$ 20,000,000 |

¹ The Initial Purchase by Aspire Capital is 606,060 shares of common stock for \$1,000,000.

² Includes the total number of Initial Shares and Purchase Shares (but not Commitment Shares) which we would have sold under the Purchase Agreement at the corresponding assumed purchase price set forth in the adjacent column, up to an aggregate purchase price of \$19,000,000. Where applicable, the calculations take into account the 19.99% Exchange Cap limitation, which limits the total number of shares that we may offer to 3,231,096, including the Commitment Shares.

³ The denominator is based on 16,163,565 shares outstanding as of August 20, 2012 (excluding any shares offered hereby), plus the number of shares set forth in the adjacent column which we would have sold to Aspire Capital (including the Initial Shares) subject to the Exchange Cap, plus the Commitment Shares. The numerator is based on the number of shares which we would have sold under the Purchase Agreement at the corresponding assumed purchase price set forth in the adjacent column, plus the Initial Shares, plus the Commitment Shares. Where applicable, the calculations take into account the 19.99% Exchange Cap limitation, which limits the total number of shares that we may offer to 3,231,096, including the Commitment Shares.

⁴ Includes the \$1,000,000 price of the Initial Shares.

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Information with Respect to Aspire Capital

As of the date of the Purchase Agreement, Aspire Capital did not beneficially own any shares of our common stock. Steven G. Martin, Erik J. Brown and Christos Komissopoulos, the principals of Aspire Capital, are deemed to be beneficial owners of all of the shares of common stock owned by Aspire Capital. Messrs. Martin, Brown and Komissopoulos will have shared voting and investment power over any shares purchased by Aspire Capital under this prospectus supplement in connection with the transactions contemplated under the Purchase Agreement. Aspire Capital is not a licensed broker-dealer or an affiliate of a licensed broker-dealer.

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PLAN OF DISTRIBUTION

We entered into the Purchase Agreement with Aspire Capital on August 20, 2012. In consideration for entering into the Purchase Agreement, we will issue the Commitment Shares to Aspire Capital. The Purchase Agreement provides that, upon the terms and subject to the conditions set forth therein, Aspire Capital is irrevocably committed to purchase up to an aggregate of \$20 million of additional shares of our common stock over the 24-month term of the Purchase Agreement.

The Purchase Agreement provides that we will sell the Initial Shares to Aspire Capital upon execution of the Purchase Agreement for the purchase price of \$1,000,000. The Purchase Agreement further provides that from time to time over the term of the Purchase Agreement, on any business day on which the closing sale price of our common stock equals or exceeds \$1.00 per share, and at our sole discretion, we may present Aspire Capital with a Purchase Notice directing Aspire Capital to purchase up to 50,000 Purchase Shares per business day at the Purchase Price on that day. We may mutually agree with Aspire Capital to increase the number of shares that may be sold per business day to as much as an additional 1,000,000 shares per business day.

In addition, on any date on which we submit a 50,000 share Purchase Notice to Aspire Capital, we also have the right, in our sole discretion, to present Aspire Capital with a VWAP Purchase Notice directing Aspire Capital to purchase an amount of common stock equal to up to 15% of the aggregate shares of our common stock traded on the NASDAQ Global Market on the VWAP Purchase Date, subject to the VWAP Minimum Price Threshold and the VWAP Purchase Share Volume Maximum.

Aspire Capital may be an underwriter within the meaning of the Securities Act.

Neither we nor Aspire Capital can presently estimate the amount of compensation that any agent will receive. We know of no existing arrangements between Aspire Capital, any other shareholder, broker, dealer, underwriter, or agent relating to the sale or distribution of the shares offered by this prospectus supplement. At the time a particular offer of shares is made, a prospectus supplement, if required, will be distributed that will set forth the names of any agents, underwriters, or dealers and any other required information.

We will pay all of the expenses incident to the registration, offering and sale of the shares to Aspire Capital. We have agreed to indemnify Aspire Capital and certain other persons against certain liabilities in connection with the offering of shares of common stock offered hereby, including liabilities arising under the Securities Act or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities. Aspire Capital has agreed to indemnify us against liabilities under the Securities Act that may arise from certain written information furnished to us by Aspire Capital specifically for use in this prospectus or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities.

Aspire Capital and its affiliates have agreed not to engage in any direct or indirect short selling or hedging of our common stock during the term of the Purchase Agreement.

We have advised Aspire Capital that it is required to comply with Regulation M promulgated under the Securities Exchange Act of 1934, as amended. With certain exceptions, Regulation M precludes the selling shareholder, any affiliated purchasers, and any broker-dealer or other person who participates in the distribution from bidding for or purchasing, or attempting to induce any person to bid for or purchase any security which is the subject of the distribution until the entire distribution is complete. Regulation M also prohibits any bids or purchases made in order to stabilize the price of a security in connection with the distribution of that security. All of the foregoing may affect the marketability of the shares offered hereby.

We may suspend the sale of shares to Aspire Capital pursuant to this prospectus for certain periods of time for certain reasons, including if the prospectus is required to be supplemented or amended to include additional material information.

This offering will terminate on the date that all shares offered by this prospectus have been sold to Aspire Capital.

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LEGAL MATTERS

The validity of the common stock offered by this prospectus supplement and the accompanying prospectus will be passed upon for us by Cooley LLP, San Diego, California. Certain legal matters will be passed upon for Aspire Capital by O Melveny & Myers LLP.

EXPERTS

The financial statements of MediciNova, Inc. as of and for the year ended December 31, 2011, incorporated into this prospectus supplement by reference from our Annual Report on Form 10-K for the year ended December 31, 2011, have been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in its report, which is incorporated by reference herein and has been incorporated in reliance upon its authority as experts in accounting and auditing.

The financial statements of MediciNova, Inc. as of and for the years ended December 31, 2009 and December 31, 2010, incorporated into this prospectus supplement by reference from our Annual Report on Form 10-K for the year ended December 31, 2010, have been audited by KPMG LLP, an independent registered public accounting firm, as stated in its report, which is incorporated by reference herein and has been incorporated in reliance upon its authority as experts in accounting and auditing.

The financial statements of MediciNova, Inc. as of and for the year ended December 31, 2008, incorporated into this prospectus supplement by reference from our Annual Report on Form 10-K for the year ended December 31, 2010, have been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in its report, which is incorporated by reference herein and has been incorporated in reliance upon its authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus supplement and the accompanying prospectus are part of the registration statement on Form S-3 we filed with the SEC under the Securities Act and do not contain all the information set forth in the registration statement. Whenever a reference is made in this prospectus supplement or the accompanying prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference into this prospectus supplement and the accompanying prospectus for a copy of such contract, agreement or other document. Because we are subject to the information and reporting requirements of the Exchange Act, we file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at www.sec.gov. You may also read and copy any document we file 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 for further information on the operation of the Public Reference Room.

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INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference information from other documents that we file with them, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus supplement and the accompanying prospectus. Information contained in this prospectus supplement and the accompanying prospectus and information that we file with the SEC in the future and incorporate by reference into this prospectus supplement and the accompanying prospectus will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings (other than Current Reports on Form 8-K furnished under Item 2.02 or Item 7.01 and exhibits filed on such form that are related to such items) we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus supplement and before the sale of all the securities covered by this prospectus supplement:

our Annual Report on Form 10-K for the year ended December 31, 2011 (filed on March 29, 2011);

the information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2011 from our definitive proxy statement on Schedule 14A, filed with the SEC on April 30, 2012;

our Quarterly Reports on Form 10-Q filed with the SEC on May 10, 2012 and August 9, 2012;

our Current Reports on Form 8-K filed with the SEC on February 15, 2012, March 22, 2012, April 11, 2012, June 18, 2012 and July 5, 2012 (other than the portions of these reports furnished but not filed pursuant to SEC rules and the exhibits filed on such form that relate to such portions); and

the description of our common stock contained in our registration statement on Form S-3, filed with the SEC on November 13, 2009, including any amendment or reports filed for the purpose of updating such description (Registration No. 333-163116).

You can request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

MediciNova, Inc.

4350 La Jolla Village Drive, Suite 950

San Diego, CA 92122

(858) 373-1500

Attn: Investor Relations

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PROSPECTUS

\$100,000,000

MEDICINOVA, INC.

Common Stock

Preferred Stock

Warrants to Purchase Common Stock, Preferred Stock or Debt Securities

Rights to Purchase Common Stock, Preferred Stock or Debt Securities

Debt Securities

We may from time to time offer to sell any combination of common stock; preferred stock; warrants to purchase common stock, preferred stock or debt securities; rights to purchase common stock, preferred stock or debt securities; and debt securities, each as described in this prospectus, in one or more offerings. The aggregate initial offering price of all securities sold under this prospectus will not exceed \$100,000,000.

This prospectus provides a general description of the securities we may offer. Each time we sell securities, we will provide specific terms of the securities offered in a supplement to this prospectus. The prospectus supplement may also add, update or change information contained in this prospectus. You should read this prospectus and the applicable prospectus supplement carefully before you invest in any securities. This prospectus may not be used to consummate a sale of securities unless accompanied by the applicable prospectus supplement.

We will sell these securities to or through underwriters or dealers, directly to a limited number of purchasers or a single purchaser, through agents or through a combination of any of these methods of sale, as designated from time to time. If any agents or underwriters are involved in the sale of any of these securities, the applicable prospectus supplement will provide the names of the agents or underwriters and any applicable fees, commissions or discounts.

Our common stock is listed on the NASDAQ Global Market, or Nasdaq, under the symbol **MNOV** and on the Hercules Market of the Osaka Securities Exchange, or the OSE, under the code **4875**. On December 9, 2009, the closing price of our common stock on Nasdaq was \$6.50.

The aggregate market value of our common stock held by our non-affiliates was approximately \$66.7 million based on the closing price of our common stock on Nasdaq of \$6.50 per share on December 9, 2009. Shares of common stock held by each executive officer and director and each person who beneficially owns 10% or more of the outstanding common stock have been excluded from this calculation. This determination of affiliate status may not be conclusive for other purposes.

The number of outstanding shares of our common stock, par value \$0.001 per share, as of December 9, 2009 was 12,113,841.

Investing in our securities involves risks. See Risk Factors on page 3 of this prospectus and in the applicable prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is December 16, 2009.

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ABOUT THIS PROSPECTUS

This prospectus is a part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, utilizing a shelf registration process. Under this shelf registration process, we may offer to sell any combination of the securities described in this prospectus in one or more offerings up to a total dollar amount of \$100,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities under this shelf registration, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. To the extent that any statement that we make in a prospectus supplement is inconsistent with statements made in this prospectus, the statements made in this prospectus will be deemed modified or superseded by those made in the prospectus supplement, as appropriate. You should read both this prospectus and any prospectus supplement, including all documents incorporated herein or therein by reference, together with additional information described under Where You Can Find More Information.

You should rely only on the information that we have provided or incorporated by reference in this prospectus, any prospectus supplement, any free writing prospectus or other written communication we may authorize to be delivered to you. We have not, and have not authorized anyone else, to provide you with different or additional information. This prospectus, any prospectus supplement, any free writing prospectus and any other written communication do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they specifically relate, nor does this prospectus, any prospectus supplement, any free writing prospectus or any other written communication constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus or in the documents incorporated by reference herein, any prospectus supplement, any free writing prospectus or other written communication is accurate as of any date noted therein or, in the case of documents incorporated by reference, the filing date thereof, regardless of its time of delivery, and you should not consider any information in this prospectus or in the documents incorporated by reference herein, any prospectus supplement, any free writing prospectus or other written communication to be investment, legal or tax advice. We encourage you to consult your own counsel, accountant and other advisors for legal, tax, business, financial and related advice regarding an investment in our securities.

As used in this prospectus, MediciNova, we, our and us refer to MediciNova, Inc. and its subsidiaries, unless stated otherwise or the context requires otherwise.

Table of Contents**MEDICINOVA, INC.**

MediciNova is a biopharmaceutical company focused on acquiring and developing novel, small molecule therapeutics for the treatment of diseases with unmet medical need with a specific focus on the U.S. market. Through strategic alliances, primarily with Japanese pharmaceutical companies, we hold rights to a diversified portfolio of clinical and preclinical product candidates, each of which we believe has a well-characterized and differentiated therapeutic profile, attractive commercial potential and patent assets having claims of commercially adequate scope.

We believe that our ability to gain access to and acquire potentially high-value product candidates from Japanese and European pharmaceutical companies is largely attributable to the established relationships and broad industry experience of our management team. In particular, we believe our relationships with Japanese pharmaceutical companies and their executives provide us with a competitive advantage in opportunistically sourcing product candidates from Japanese pharmaceutical companies at attractive terms. Since our inception, we have established relationships with a number of pharmaceutical companies, including Kissei Pharmaceutical Co., Ltd., Kyorin Pharmaceutical Co., Ltd., Mitsubishi Tanabe Pharma Corporation and Meiji Seika Kaisha, Ltd. in Japan and Angiogene Pharmaceuticals, Ltd. in the United Kingdom, pursuant to which we have obtained rights to develop and commercialize our current product candidates.

We have acquired licenses to eight compounds for the development of ten product candidates in what we believe are large and underserved markets. Our development pipeline consists of eight product development programs which have been in clinical development for the treatment of asthma, acute exacerbations of asthma, multiple sclerosis, interstitial cystitis, solid tumor cancers, Generalized Anxiety Disorder/insomnia, preterm labor and urinary incontinence. Our two earlier stage product development programs have been in preclinical development for the treatment of thrombotic disorders. In addition, we have expanded the development program for one of our prioritized product candidates, MN-221, to evaluate MN-221 for the treatment of chronic obstructive pulmonary disease, or COPD, exacerbations.

Our current strategy is to focus our resources on two prioritized product development programs:

Product

| Candidate | Disease/Indication | Phase of Development | Licensor | Licensed Territory |
|------------------|--|---|---------------------------------|--|
| MN-221 | Acute exacerbations of asthma and COPD exacerbations | Phase II clinical trial in emergency rooms to evaluate MN-221 at planned escalating doses in patients with severe, acute exacerbations of asthma completed in Q2, 2009. | Kissei Pharmaceutical Co., Ltd. | Worldwide, except Japan |
| | | Phase II clinical trial in emergency rooms to evaluate the safety and efficacy of MN-221 in patients with severe, acute exacerbations of asthma initiated in Q1, 2009. | | |
| | | Phase Ib clinical trial to evaluate the safety and efficacy of MN-221 in patients with stable, moderate to severe COPD initiated in Q4, 2009. | | |
| MN-166 | Multiple sclerosis | Phase II clinical trial completed in Q2, 2008. | Kyorin Pharmaceutical Co., Ltd. | Worldwide, except Japan, China, Taiwan and South Korea |
| | | Prototype once-per-day oral formulation developed for future clinical trials. | | |

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Upon completion of proof-of-concept Phase II clinical trials, we will either continue to pursue clinical development independently in the United States, as we presently intend with MN-221, or establish a strategic collaboration to support further clinical development, as we presently intend with MN-166. Following the completion of the Phase II clinical trial for MN-166 in the second quarter of 2008, we are not planning to pursue any further significant clinical development of MN-166 until we secure a strategic collaboration to advance the clinical development of such product candidate.

We intend to limit development activities for the balance of our product candidates. For each of these remaining product candidates, we plan to conduct development activities only to the extent deemed necessary to maintain our license rights or maximize our value while pursuing a variety of initiatives to monetize such product candidate on appropriate terms.

These eight non-prioritized product development programs consist of:

Product

| Candidate | Disease/Indication | Phase of Development | Licensor | Licensed Territory |
|------------------|--|---|--------------------------------------|--|
| MN-001 | Bronchial asthma | Phase III clinical trial initiated in Q4, 2006 and terminated in Q2, 2007; once-per-day oral dosing formulation prototypes developed | Kyorin Pharmaceutical Co., Ltd. | Worldwide, except Japan, China, Taiwan and South Korea |
| MN-001 | Interstitial cystitis | Phase II/III clinical trial completed in Q1, 2007 | Kyorin Pharmaceutical Co., Ltd. | Worldwide, except Japan, China, Taiwan and South Korea |
| MN-029 | Solid tumors | Phase I clinical trial completed in Q2, 2006; second Phase I clinical trial completed in Q4, 2007 | Angiogene Pharmaceuticals, Ltd. | Worldwide |
| MN-305 | Generalized Anxiety Disorder/ Insomnia | Phase II/III clinical trial completed in Generalized Anxiety Disorder in Q2, 2006 ; Phase II clinical trial in insomnia completed in Q4, 2007 | Mitsubishi Tanabe Pharma Corporation | Worldwide, except Japan and certain countries in Asia |
| MN-221 | Preterm labor | Phase I clinical trial completed in Q2, 2007 | Kissei Pharmaceutical Co., Ltd. | Worldwide, except Japan |
| MN-246 | Urinary incontinence | Phase I clinical trial completed in Q4, 2006; Phase I food effects study completed in Q1, 2007 | Mitsubishi Tanabe Pharma Corporation | Worldwide, except Japan and certain countries in Asia |
| MN-447 | Thrombotic disorders | Preclinical | Meiji Seika Kaisha, Ltd. | Worldwide, except Japan and certain countries in Asia |
| MN-462 | Thrombotic disorders | Preclinical | Meiji Seika Kaisha, Ltd. | Worldwide, except Japan and certain countries in Asia |

* We define a product candidate to be in Phase II/III when the clinical trial design is such that, if the primary endpoint is met, the results may provide confirmatory evidence of efficacy if we choose to submit the

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clinical trial as a pivotal trial and the FDA chooses to review the clinical trial as a pivotal trial. However, in regulatory filings with the U.S. Food and Drug Administration, we have nominally described these clinical trials as Phase II clinical trials.

Although positive signs of efficacy were obtained in the clinical trials conducted on MN-001 in interstitial cystitis and MN-305 in Generalized Anxiety Disorder, the predefined primary statistical endpoints of the clinical trials were not achieved; therefore, we would not anticipate submitting either clinical trial as a pivotal trial supporting a NDA to the FDA.

In the Phase II clinical trial conducted on MN-305 in insomnia, the predefined statistical endpoint of the clinical trial was not achieved; therefore, we terminated any further development of MN-305 for the treatment of insomnia.

We were incorporated under the laws of the State of Delaware in September 2000. Our principal executive offices are located at 4350 La Jolla Village Drive, Suite 950, San Diego, CA 92122, and our telephone number is (858) 373-1500. Information about the company is also available at our website at www.medicinova.com, which includes links to reports we have filed with the SEC. We do not incorporate the information on our website into this prospectus, and you should not consider it part of this prospectus or part of any prospectus supplement.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading

Risk Factors contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the documents incorporated by reference into this prospectus, before deciding whether to purchase any of the securities being registered pursuant to the registration statement of which this prospectus is a part. Each of the risk factors could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our securities, and the occurrence of any of these risks might cause you to lose all or a part of your investment. Moreover, the risks described are not the only risks that we face. Additional risks not presently known to us or that we currently believe are immaterial may also significantly impair our business operations.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and any prospectus supplement contain forward-looking statements that involve a number of risks and uncertainties, many of which are beyond our control. Forward-looking statements discuss matters that are not historical facts. Forward-looking statements include discussions regarding our operating strategy, growth strategy, licensing and acquisition strategy, cost savings initiatives, industry and economic conditions, market factors, financial condition, liquidity and capital resources, results of operations, expected progress of the development of our product candidates, potential licensing, collaboration and partnering plans, anticipated trends and challenges in our business and the markets in which we operate, competitive position, intellectual property protection, critical accounting policies and the impact of recent accounting pronouncements.

Actual results may differ from those anticipated or expressed in these forward-looking statements as a result of various factors, including those set forth in our SEC filings under **Risk Factors** and in the **Risk Factors** section of any prospectus supplement. Examples of forward-looking statements include statements regarding:

the potential for our product candidates to receive regulatory approval for one or more indications on a timely basis, or at all;

the success, timing, design and results of clinical trials for our product candidates, including any delays in commencing or completing enrollment for our ongoing or planned clinical trials;

plans for future clinical trials and regulatory submissions;

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unexpected adverse side effects or inadequate therapeutic efficacy of our product candidates that could delay or prevent regulatory approval or commercialization or that could result in product liability claims;

other difficulties or delays in development, testing, manufacturing and marketing of and obtaining regulatory approval for our product candidates;

the continuation and success of our collaborations with our licensors;

the performance of third party service providers and manufacturers

intellectual property rights and disputes, including the scope and validity of patent protection for our product candidates;

the size and growth of the potential markets for our product candidates and our ability to serve those markets;

the potential to attract one or more strategic partners and terms of any related transactions;

intense competition and our ability to compete if any of our product candidates are ever commercialized;

regulatory developments in the United States and foreign countries;

the potential impact of uncertainties in the credit and capital markets or a future deterioration of these markets on our investment portfolio; and

our ability to raise sufficient capital when needed, or at all.

Forward-looking statements include statements preceded by, followed by or that otherwise include the words may, might, will, intend, should, could, can, would, expect, believe, estimate, anticipate, predict, potential, plan or similar words. For all forward-looking statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995. You should not rely unduly on these forward-looking statements, which speak only as of the date on which they are made. We undertake no obligation to revise or update publicly any forward-looking statements, whether as a result of new information, future events or otherwise, unless required by law.

USE OF PROCEEDS

Unless otherwise provided in the applicable prospectus supplement, we intend to use the net proceeds from the sale of the securities under this prospectus for general corporate purposes, including the further development, manufacture and commercialization of our prioritized product candidates and for other working capital expenditures. We may also use a portion of the net proceeds to acquire or invest in businesses, products and technologies that are complementary to our own. Pending the application of the net proceeds as described above, we intend to invest the net proceeds in short-term, investment-grade, interest-bearing securities.

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DESCRIPTION OF COMMON STOCK

We have authority to issue 30,000,000 shares of common stock, par value \$0.001 per share. As of December 9, 2009, we had 12,113,841 shares of common stock issued and outstanding. The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC.

Subject to preferences that may be applicable to any shares of preferred stock outstanding from time to time, if any, the holders of our common stock are entitled to the following:

Dividends. The holders of outstanding shares of common stock are entitled to receive dividends out of assets legally available for the payment of dividends at the times and in the amounts as our board of directors from time to time may determine, subject to any preferential dividend rights of any holder of outstanding shares of our preferred stock.

Voting. Each holder of common stock is entitled to one vote for each share of common stock held on all matters submitted to a vote of our stockholders, including the election of directors. We have not provided for cumulative voting for the election of directors in our restated certificate of incorporation. This means that the holders of a majority of the shares voted can elect all of the directors then standing for election.

Preemptive rights, conversion and redemption. Our common stock is not subject to preemptive rights and will not be subject to conversion or redemption.

Liquidation, dissolution and winding-up. Upon liquidation, dissolution or winding-up, the holders of our common stock are entitled to share ratably in all assets remaining after payment of liabilities and the liquidation preferences of any preferred stock.

Each outstanding share of common stock is duly and validly issued, fully paid and non-assessable.

Delaware Anti-Takeover Law

We are subject to the provisions of Section 203 of the Delaware General Corporation Law regulating corporate takeovers. In general, these provisions prohibit a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years following the date that the stockholder became an interested stockholder, unless:

prior to such time, the board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;

upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85 percent of the voting stock of the corporation outstanding at the time the transaction commenced; or

on or after the date the business combination is approved by the board of directors and authorized at a meeting of stockholders, by at least two-thirds of the outstanding voting stock that is not owned by the interested stockholder.

Section 203 defines *business combination* to include the following:

any merger or consolidation involving the corporation and the interested stockholder;

any sale, transfer, pledge or other disposition (in one transaction or a series of transactions) of 10 percent or more of either the aggregate market value of all the assets of the corporation or the aggregate market value of all the outstanding stock of the corporation involving the interested stockholder;

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subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;

any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation owned by the interested stockholder; or

the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15 percent or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by any of these entities or persons.

The statute could prohibit or delay mergers or other takeover or change in control attempts and, accordingly, may discourage attempts to acquire us.

Removal of Directors and Vacancies

Our restated certificate of incorporation and amended and restated bylaws provide that directors may be removed only for cause and only by the affirmative vote of the holders of a majority of shares of capital stock present in person or by proxy and entitled to vote. Under our restated certificate of incorporation and amended and restated bylaws, any vacancy on the board of directors, including a vacancy resulting from an enlargement of the board of directors, may be filled only by vote of a majority of the directors then in office. The limitations on the ability of our stockholders to remove directors and fill vacancies could make it more difficult for a third-party to acquire, or discourage a third-party from seeking to acquire, control of us.

Stockholder Meetings

Our restated certificate of incorporation and amended and restated bylaws provide that any action required or permitted to be taken by stockholders at an annual meeting or special meeting of stockholders may only be taken if it is properly brought before such meeting and may not be taken by written action in lieu of a meeting. Our restated certificate of incorporation and amended and restated bylaws also provide that, except as otherwise required by law, special meetings of the stockholders can only be called by the chairman of the board, the chief executive officer or the board of directors. In addition, our amended and restated bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of candidates for election to the board of directors. Stockholders at an annual meeting may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of the board of directors, or by a stockholder of record on the record date for the meeting who is entitled to vote at the meeting and who has delivered timely written notice in proper form to the secretary of the stockholder's intention to bring such business before the meeting. These provisions could have the effect of delaying until the next stockholder meeting stockholder actions that are favored by the holders of a majority of our outstanding voting securities.

Undesignated Preferred Stock

The authorization in our restated certificate of incorporation of 500,000 shares, par value \$0.01 per share, of undesignated preferred stock makes it possible for the board of directors, without obtaining further stockholder approval, to issue preferred stock with voting rights or other rights or preferences that could impede the success of any attempt to take control of us.

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Rights Plan

We currently have a stockholder rights plan in effect, pursuant to which each share of common stock includes an attached preferred stock purchase right. The rights have certain anti-takeover effects. The rights will cause substantial dilution to any person or group that attempts to acquire a 20 percent share of the voting power without our approval. Because our board of directors can redeem the rights or approve an acquisition offer, the rights generally should not interfere with any merger or other business combination approved by the board of directors. Our board of directors may amend the terms of the rights in any manner prior to the time the rights are triggered.

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DESCRIPTION OF PREFERRED STOCK

We have authority to issue 500,000 shares of preferred stock, par value \$0.01 per share. As of December 9, 2009, we had no shares of preferred stock outstanding.

General

Under our restated certificate of incorporation, our board of directors is authorized generally without stockholder approval to issue shares of preferred stock from time to time, in one or more classes or series. Prior to issuance of shares of each class or series, our board of directors is required by Delaware law to adopt resolutions and file a certificate of designation with the Secretary of State of the State of Delaware. The certificate of designation fixes for each class or series the terms, preferences, conversion or other rights, voting powers, restrictions, limitations as to dividends or other distributions, qualifications and terms or conditions of redemption for each class or series. Any shares of preferred stock will, when issued, be fully paid and nonassessable.

For any series of preferred stock that we may issue, our board of directors will determine and the prospectus supplement relating to such series will describe:

the designation and number of shares of such series;

the rate and time at which, and the preferences and conditions under which, any dividends will be paid on shares of such series, as well as whether such dividends are cumulative or non-cumulative and participating or non-participating;

any listing of the preferred stock on any securities exchange;

any provisions relating to convertibility or exchangeability of shares of such series and the computation of the conversion or exchange price;

the rights and preferences, if any, of holders of shares of such series upon our liquidation, dissolution or winding up of our affairs;

the voting powers, if any, of the holders of shares of such series;

any provisions relating to the redemption of shares of such series;

any limitations on our ability to pay dividends or make distributions on, or acquire or redeem, other securities while shares of such series are outstanding;

the procedures for any auction and remarketing, if any, for shares of such series;

the provisions for a sinking fund, if any, for shares of such series;

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any conditions or restrictions on our ability to issue additional shares of such series or other securities while shares of such series are outstanding;

if applicable, a discussion of certain U.S. Federal income tax considerations; and

any other relative power, preferences and participating, optional or special rights of shares of such series, and the qualifications, limitations or restrictions thereof.

Delaware law provides that the holders of preferred stock will have the right to vote separately as a class (or, in some cases, as a series) on an amendment to our restated certificate of incorporation if the amendment would change the par value or, unless the restated certificate of incorporation then in effect provided otherwise, the number of authorized shares of such class or change the powers, preferences or special rights of such class or series so as to adversely affect the class or series, as the case may be. This right is in addition to any voting rights that may be provided for in the applicable certificate of designation.

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Ranking

Unless we specify otherwise in the applicable prospectus supplement, the preferred stock will rank, with respect to dividends and upon our liquidation, dissolution or winding up:

senior to all classes or series of our common stock and to all of our equity securities ranking junior to the preferred stock;

on a parity with all of our equity securities the terms of which specifically provide that the equity securities rank on a parity with the preferred stock; and

junior to all of our equity securities the terms of which specifically provide that the equity securities rank senior to the preferred stock.

The term "equity securities" does not include convertible debt securities.

Transfer Agent and Registrar

The transfer agent and registrar for any series or class of preferred stock will be set forth in the applicable prospectus supplement.

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DESCRIPTION OF WARRANTS

The following is a general description of the terms of the warrants we may issue from time to time unless we provide otherwise in the prospectus supplement. Particular terms of any warrants we offer will be described in the prospectus supplement relating to such warrants.

General Terms

We may issue warrants to purchase common stock, preferred stock or debt securities. Warrants may be issued independently or together with other securities and may be attached or separate from such securities. We will issue each series of warrants under a separate warrant agreement to be entered into between us and a warrant agent. The warrant agent will act solely as our agent and will not assume any obligation or relationship of agency for or with holders or beneficial owners of warrants.

A prospectus supplement will describe the particular terms of any series of warrants we may issue, including the following:

the title and aggregate number of the warrants;

the price or prices at which the warrants will be issued and the currency or currencies in which the price of the warrants may be payable;

if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;

in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant;

in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon exercise of one warrant;

the date on which the right to exercise the warrants will commence and the date on which such right will expire (subject to any extension);

whether the warrants will be issued in registered form or bearer form;

if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;

if applicable, the date on and after which the warrants and the related securities will be separately transferable;

if applicable, the procedures for adjusting the exercise price and number of shares of common stock or preferred stock purchasable upon the exercise of each warrant upon the occurrence of certain events, including stock splits, reverse stock splits, combinations, subdivisions or reclassifications of common stock or preferred stock;

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the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;

the terms of any rights to redeem or call the warrants;

information with respect to book-entry procedures, if any;

the terms of the securities issuable upon exercise of the warrants;

if applicable, a discussion of certain U.S. Federal income tax considerations; and

any other terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants.

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We and the warrant agent may amend or supplement the warrant agreement for a series of warrants without the consent of the holders of the warrants issued thereunder to effect changes that are not inconsistent with the provisions of the warrants and that do not materially and adversely affect the interests of the holders of the warrants.

Exercise of Warrants

Each warrant will entitle the holder to purchase for cash such common stock or preferred stock at the exercise price or such principal amount of debt securities as shall in each case be set forth in, or be determinable as set forth in, the prospectus supplement relating to the warrants offered thereby. Warrants may be exercised as set forth in the prospectus supplement beginning on the date specified therein and continuing until the close of business on the expiration date set forth in the prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Upon receipt of payment and a warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the prospectus supplement, we will, as soon as practicable, forward the securities purchasable upon such exercise. If less than all of the warrants represented by such warrant certificate are exercised, a new warrant certificate will be issued for the remaining warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for warrants.

Prior to exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including, in the case of warrants to purchase common stock or preferred stock, the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise any voting rights or, in the case of warrants to purchase debt securities, the right to receive principal, premium, if any, or interest payments, on the debt securities purchasable upon exercise or to enforce covenants in the applicable indenture.

Governing Law

Any warrants and related warrant agreements will be governed by, and construed in accordance with, the laws of the State of New York.

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DESCRIPTION OF RIGHTS

The following is a general description of the terms of the rights we may issue from time to time unless we provide otherwise in the prospectus supplement. Particular terms of any rights we offer will be described in the prospectus supplement relating to such rights.

General

We may issue rights to purchase common stock, preferred stock or debt securities. Rights may be issued independently or together with other securities and may or may not be transferable by the person purchasing or receiving the rights. In connection with any rights offering to our stockholders, we may enter into a standby underwriting, backstop or other arrangement with one or more underwriters or other persons pursuant to which such underwriters or other persons would purchase any offered securities remaining unsubscribed for after such rights offering. In connection with a rights offering to our stockholders, we would distribute certificates evidencing the rights and a prospectus supplement to our stockholders on or about the record date that we set for receiving rights in such rights offering.

The applicable prospectus supplement will describe the following terms of any rights we may issue, including the following:

the title and aggregate number of the rights;

the subscription price or a formula for the determination of the subscription price for the rights and the currency or currencies in which the subscription price may be payable;

if applicable, the designation and terms of the securities with which the rights are issued and the number of rights issued with each such security or each principal amount of such security;

the number or a formula for the determination of the number of the rights issued to each stockholder;

the extent to which the rights are transferable;

in the case of rights to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one right;

in the case of rights to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon exercise of one right;

the date on which the right to exercise the rights will commence, and the date on which the rights will expire (subject to any extension);

if applicable, the minimum or maximum amount of the rights that may be exercised at any one time;

the extent to which such rights include an over-subscription privilege with respect to unsubscribed securities;

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if applicable, the procedures for adjusting the subscription price and number of shares of common stock or preferred stock purchasable upon the exercise of each right upon the occurrence of certain events, including stock splits, reverse stock splits, combinations, subdivisions or reclassifications of common stock or preferred stock;

the effect of any merger, consolidation, sale or other disposition of our business on the rights;

the terms of any rights to redeem or call the rights;

information with respect to book-entry procedures, if any;

the terms of the securities issuable upon exercise of the rights;

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if applicable, the material terms of any standby underwriting, backstop or other purchase arrangement that we may enter into in connection with the rights offering;

if applicable, a discussion of certain U.S. Federal income tax considerations; and

any other terms of the rights, including terms, procedures and limitations relating to the exchange and exercise of the rights.

Exercise of Rights

Each right will entitle the holder to purchase for cash or other consideration such shares of stock or principal amount of securities at the subscription price as shall in each case be set forth in, or be determinable as set forth in, the prospectus supplement relating to the rights offered thereby. Rights may be exercised as set forth in the prospectus supplement beginning on the date specified therein and continuing until the close of business on the expiration date set forth in the prospectus supplement relating to the rights offered thereby. After the close of business on the expiration date, unexercised rights will become void.

Upon receipt of payment and a subscription certificate properly completed and duly executed at the corporate trust office of the subscription agent or any other office indicated in the prospectus supplement, we will, as soon as practicable, forward the securities purchasable upon such exercise. If less than all of the rights represented by such subscription certificate are exercised, a new subscription certificate will be issued for the remaining rights. If we so indicate in the applicable prospectus supplement, holders of the rights may surrender securities as all or part of the exercise price for rights.

We may determine to offer any unsubscribed offered securities directly to stockholders, persons other than stockholders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby underwriting, backstop or other arrangements, as set forth in the applicable prospectus supplement.

Prior to exercising their rights, holders of rights will not have any of the rights of holders of the securities purchasable upon subscription, including, in the case of rights to purchase common stock or preferred stock, the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise any voting rights or, in the case of rights to purchase debt securities, the right to receive principal, premium, if any, or interest payments, on the debt securities purchasable upon exercise or to enforce covenants in the applicable indenture.

Governing Law

The rights and subscription certificates will be governed by, and construed in accordance with, the laws of the State of Delaware.

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DESCRIPTION OF DEBT SECURITIES

The following is a general description of the terms of debt securities we may issue from time to time unless we provide otherwise in the prospectus supplement. Particular terms of any debt securities we offer will be described in the prospectus supplement relating to such debt securities.

As required by Federal law for all bonds and notes of companies that are publicly offered, any debt securities we issue will be governed by a document called an indenture. An indenture is a contract between us and a financial institution acting as trustee on behalf of the holders of the debt securities, and is subject to and governed by the Trust Indenture Act of 1939, as amended. The trustee has two main roles. First, the trustee can enforce holders' rights against us if we default. There are some limitations on the extent to which the trustee acts on holders' behalf, described in the second paragraph under Description of Debt Securities Events of Default. Second, the trustee performs certain administrative duties, such as sending interest and principal payments to holders.

Because this section is a summary, it does not describe every aspect of any debt securities we may issue or the indenture governing any such debt securities. Particular terms of any debt securities we offer will be described in the prospectus supplement relating to such debt securities, and we urge you to read the applicable indenture, which will be filed with the SEC at the time of any offering of debt securities, because it, and not this description, will define the rights of holders of such debt securities.

A prospectus supplement will describe the particular terms of any series of debt securities we may issue, including the following:

the designation or title of the series of debt securities;

the total principal amount of the series of debt securities, the denominations in which the offered debt securities will be issued and whether the offering may be reopened for additional securities of that series and on what terms;

the percentage of the principal amount at which the series of debt securities will be offered;

the date or dates on which principal will be payable;

the rate or rates (which may be either fixed or variable) and/or the method of determining such rate or rates of interest, if any;

the date or dates from which any interest will accrue, or the method of determining such date or dates, and the date or dates on which any interest will be payable;

the terms for redemption, extension or early repayment, if any;

the currencies in which the series of debt securities are issued and payable;

whether the amount of payments of principal, interest or premium, if any, on a series of debt securities will be determined with reference to an index, formula or other method and how these amounts will be determined;

the place or places of payment, transfer, conversion and/or exchange of the debt securities;

the provision for any sinking fund;

any restrictive covenants;

events of default;

whether the series of debt securities are issuable in certificated form;

any provisions for legal defeasance or covenant defeasance;

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whether and under what circumstances we will pay additional amounts in respect of any tax, assessment or governmental charge and, if so, whether we will have the option to redeem the debt securities rather than pay the additional amounts (and the terms of this option);

any provisions for convertibility or exchangeability of the debt securities into or for any other securities;

whether the debt securities are subject to subordination and the terms of such subordination;

any listing of the debt securities on any securities exchange;

if applicable, a discussion of certain U.S. Federal income tax considerations, including those related to original issue discount, if applicable; and

any other material terms.

The debt securities may be secured or unsecured obligations. Unless the prospectus supplement states otherwise, principal, interest and premium, if any, will be paid by us in immediately available funds.

General

The indenture may provide that any debt securities proposed to be sold under this prospectus and the applicable prospectus supplement relating to such debt securities (offered debt securities) and any debt securities issuable upon the exercise of warrants or upon conversion or exchange of other offered securities (underlying debt securities) may be issued under the indenture in one or more series.

For purposes of this prospectus, any reference to the payment of principal of, or interest or premium, if any, on, debt securities will include additional amounts if required by the terms of the debt securities.

Debt securities issued under an indenture, when a single trustee is acting for all debt securities issued under the indenture, are called the indenture securities. The indenture may also provide that there may be more than one trustee thereunder, each with respect to one or more different series of securities issued thereunder. See Description of Debt Securities Resignation of Trustee below. At a time when two or more trustees are acting under an indenture, each with respect to only certain series, the term indenture securities means the one or more series of debt securities with respect to which each respective trustee is acting. In the event that there is more than one trustee under an indenture, the powers and trust obligations of each trustee described in this prospectus will extend only to the one or more series of indenture securities for which it is trustee. If two or more trustees are acting under an indenture, then the indenture securities for which each trustee is acting would be treated as if issued under separate indentures.

We refer you to the applicable prospectus supplement relating to any debt securities we may issue from time to time for information with respect to any deletions from, modifications of or additions to the Events of Default or covenants that are described below, including any addition of a covenant or other provision providing event risk or similar protection, that will be applicable with respect to such debt securities.

We have the ability to issue indenture securities with terms different from those of indenture securities previously issued and, without the consent of the holders thereof, to reopen a previous issue of a series of indenture securities and issue additional indenture securities of that series unless the reopening was restricted when that series was created.

Conversion and Exchange

If any debt securities are convertible into or exchangeable for other securities, the related prospectus supplement will explain the terms and conditions of the conversion or exchange, including the conversion price

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or exchange ratio (or the calculation method), the conversion or exchange period (or how the period will be determined), if conversion or exchange will be mandatory or at the option of the holder or us, provisions for adjusting the conversion price or the exchange ratio and provisions affecting conversion or exchange in the event of the redemption of the underlying debt securities. These terms may also include provisions under which the number or amount of other securities to be received by the holders of the debt securities upon conversion or exchange would be calculated according to the market price of the other securities as of a time stated in the prospectus supplement.

Payment and Paying Agents

We will pay interest to the person listed in the applicable trustee's records as the owner of the debt security at the close of business on a particular day in advance of each due date for interest, even if that person no longer owns the debt security on the interest due date. That day, often approximately two weeks in advance of the interest due date, is called the record date. Because we will pay all the interest for an interest period to the holders on the record date, holders buying and selling debt securities must work out between themselves the appropriate purchase price. The most common manner is to adjust the sales price of the debt securities to prorate interest fairly between buyer and seller based on their respective ownership periods within the particular interest period. This prorated interest amount is called accrued interest.

Events of Default

Holders of debt securities of any series will have rights if an Event of Default occurs in respect of the debt securities of such series and is not cured, as described later in this subsection.

The term "Event of Default" in respect of the debt securities of any series means any of the following:

we do not pay the principal of, or any premium on, a debt security of the series on its due date;

we do not pay interest on a debt security of the series within 30 days of its due date;

we do not deposit any sinking fund payment in respect of debt securities of the series on its due date and we do not cure this default within five days;

we remain in breach of a covenant in respect of debt securities of the series for 60 days after we receive a written notice of default stating we are in breach. The notice must be sent by either the trustee or holders of at least 25% of the principal amount of debt securities of the series;

we file for bankruptcy or certain other events of bankruptcy, insolvency or reorganization occur; and

any other Event of Default occurs in respect of debt securities of the series described in the prospectus supplement.

An Event of Default for a particular series of debt securities does not necessarily constitute an Event of Default for any other series of debt securities issued under the same or any other indenture. The trustee may withhold notice to the holders of debt securities of any default, except in the payment of principal, premium or interest, if it considers the withholding of notice to be in the best interests of the holders.

Remedies if an Event of Default Occurs

If an Event of Default has occurred and has not been cured or waived, the trustee or the holders of not less than 25% in principal amount of the debt securities of the affected series may declare the entire principal amount of all the debt securities of that series to be due and immediately payable. This is called a declaration of acceleration of maturity. A declaration of acceleration of maturity may be canceled by the holders of a majority

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in principal amount of the debt securities of the affected series if the default is cured or waived and certain other conditions are satisfied.

Except in cases of default, where the trustee has some special duties, the trustee typically is not required to take any action under an indenture at the request of any holders unless the holders offer the trustee reasonable protection from expenses and liability (called an indemnity). If reasonable indemnity is provided, the holders of a majority in principal amount of the outstanding debt securities of the relevant series may direct the time, method and place of conducting any lawsuit or other formal legal action seeking any remedy available to the trustee. The trustee may refuse to follow those directions in certain circumstances.

Before a holder is allowed to bypass the trustee and bring its own lawsuit or other formal legal action or take other steps to enforce its rights or protect its interests relating to any debt securities, the following must occur:

the holder must give the trustee written notice that an Event of Default has occurred and remains uncured;

the holders of at least 25% in principal amount of all outstanding debt securities of the relevant series must make a written request that the trustee take action because of the default and must offer reasonable indemnity to the trustee against the cost and other liabilities of taking that action;

the trustee must not have taken action for 60 days after receipt of the above notice and offer of indemnity; and

the holders of a majority in principal amount of the debt securities must not have given the trustee a direction inconsistent with the above notice during that 60-day period.

However, a holder is entitled at any time to bring a lawsuit for the payment of money due on its debt securities on or after the due date.

Each year, we will furnish to each trustee a written statement of certain of our officers certifying that to their knowledge we are in compliance with the indenture and the debt securities, or else specifying any default.

Waiver of Default

The holders of a majority in principal amount of the relevant series of debt securities may waive a default for all such series of debt securities. If this happens, the default will be treated as if it had not occurred. No one can waive a payment default on a holder's debt security, however, without the holder's approval.

Merger or Consolidation

Under the terms of an indenture, we may be permitted to consolidate or merge with another entity. We may also be permitted to sell all or substantially all of our assets to another entity. However, typically we may not take any of these actions unless all the following conditions are met:

if we do not survive such transaction or we convey, transfer or lease our properties and assets substantially as an entirety, the acquiring company must be a corporation, limited liability company, partnership or trust, or other corporate form, organized under the laws of any state of the United States or the District of Columbia, any country comprising the European Union, the United Kingdom or Japan and such company must agree to be legally responsible for our debt securities, and, if not already subject to the jurisdiction of any state of the United States or the District of Columbia, the new company must submit to such jurisdiction for all purposes with respect to the debt securities and appoint an agent for service of process;

alternatively, we must be the surviving company;

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immediately after the transaction no Event of Default will exist;

we must deliver certain certificates and documents to the trustee; and

we must satisfy any other requirements specified in the prospectus supplement relating to a particular series of debt securities.

Modification or Waiver

There are three types of changes we may make to an indenture and the debt securities issued thereunder.

Changes Requiring Approval

First, there are changes that we cannot make to debt securities without specific approval of all of the holders. The following is a list of the types of changes that may require specific approval:

change the stated maturity of the principal of or interest on a debt security;

reduce any amounts due on a debt security;

reduce the amount of principal payable upon acceleration of the maturity of a security following a default;

at any time after a change of control has occurred, reduce any premium payable upon a change of control;

change the place or currency of payment on a debt security (except as otherwise described in the prospectus or prospectus supplement);

impair the right of holders to sue for payment;

adversely affect any right to convert or exchange a debt security in accordance with its terms;

reduce the percentage of holders of debt securities whose consent is needed to modify or amend the indenture;

reduce the percentage of holders of debt securities whose consent is needed to waive compliance with certain provisions of the indenture or to waive certain defaults;

modify any other aspect of the provisions of the indenture dealing with supplemental indentures, modification and waiver of past defaults, changes to the quorum or voting requirements or the waiver of certain covenants; and

change any obligation we have to pay additional amounts.

Changes Not Requiring Approval

The second type of change does not require any vote by the holders of the debt securities. This type is limited to clarifications and certain other changes that would not adversely affect holders of the outstanding debt securities in any material respect, including the addition of covenants and guarantees. We also do not need any approval to make any change that affects only debt securities to be issued under the indenture after the change takes effect.

Changes Requiring Majority Approval

Any other change to the indenture and the debt securities may require the following approval:

if the change affects only one series of debt securities, it must be approved by the holders of a majority in principal amount of that series; and

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if the change affects more than one series of debt securities issued under the same indenture, it must be approved by the holders of a majority in principal amount of all of the series affected by the change, with all affected series voting together as one class for this purpose.

The holders of a majority in principal amount of all of the series of debt securities issued under an indenture, voting together as one class for this purpose, may waive our compliance obligations with respect to some of our covenants in that indenture. However, we cannot obtain a waiver of a payment default or of any of the matters covered by the bullet points included above under **Description of Debt Securities** **Modification or Waiver** **Changes Requiring Approval**.

Further Details Concerning Voting

When taking a vote, we expect to use the following rules to decide how much principal to attribute to a debt security:

for original issue discount securities, we will use the principal amount that would be due and payable on the voting date if the maturity of these debt securities were accelerated to that date because of a default;

for debt securities whose principal amount is not known (for example, because it is based on an index), we will use a special rule for that debt security described in the related prospectus supplement; and

for debt securities denominated in one or more foreign currencies, we will use the U.S. dollar equivalent.

Debt securities will not be considered outstanding, and therefore not eligible to vote, if we have deposited or set aside in trust money for their payment or redemption. Debt securities will also not be eligible to vote if they have been fully defeased as described later under **Description of Debt Securities** **Defeasance** **Legal Defeasance**.

We generally will be entitled to set any day as a record date for the purpose of determining the holders of outstanding indenture securities that are entitled to vote or take other action under the indenture. If we set a record date for a vote or other action to be taken by holders of one or more series, that vote or action may be taken only by persons who are holders of outstanding indenture securities of those series on the record date and must be taken within 11 months following the record date.

Book-entry and other indirect holders will need to consult their banks or brokers for information on how approval may be granted or denied if we seek to change the indenture or the debt securities or request a waiver.

Defeasance

The following provisions will be applicable to each series of debt securities unless we state in the applicable prospectus supplement that the provisions of covenant defeasance and legal defeasance will not be applicable to that series.

Covenant Defeasance

We can make the deposit described below and be released from some of the restrictive covenants in the indenture under which the particular series was issued. This is called **covenant defeasance**. In that event, the holders would lose the protection of those restrictive covenants but would gain the protection of having money and government securities set aside in trust to repay holders' debt securities. If applicable, a holder also would be released from the subordination provisions described under **Description of Debt Securities** **Indenture Provisions** **Subordination** below. In order to achieve covenant defeasance, we must do the following:

If the debt securities of the particular series are denominated in U.S. dollars, we must deposit in trust for the benefit of all holders of such debt securities a combination of money and U.S.

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government or U.S. government agency notes or bonds that will generate enough cash to make interest, principal and any other payments on the debt securities on their various due dates;

We may be required to deliver to the trustee a legal opinion of our counsel confirming that, under current U.S. Federal income tax law, we may make the above deposit without causing the holders to be taxed on the debt securities any differently than if we did not make the deposit and just repaid the debt securities ourselves at maturity; and

We must deliver to the trustee certain documentation stating that all conditions precedent to covenant defeasance have been complied with.

If we accomplish covenant defeasance, holders can still look to us for repayment of the debt securities if there were a shortfall in the trust deposit or the trustee is prevented from making payment. In fact, if one of the remaining Events of Default occurred (such as our bankruptcy) and the debt securities became immediately due and payable, there might be a shortfall. Depending on the event causing the default, holders may not be able to obtain payment of the shortfall.

Legal Defeasance

As described below, we can legally release ourselves from all payment and other obligations on the debt securities of a particular series (called legal defeasance), without causing the holders to be taxed on the debt securities any differently than absent the release (1) if there is a change in U.S. Federal tax law and (2) if we put in place the following other arrangements for holders to be repaid:

If the debt securities of the particular series are denominated in U.S. dollars, we must deposit in trust for the benefit of all holders of such debt securities a combination of money and U.S. government or U.S. government agency notes or bonds that will generate enough cash to make interest, principal and any other payments on the debt securities on their various due dates;

We may be required to deliver to the trustee a legal opinion confirming that there has been a change in current U.S. Federal tax law or an Internal Revenue Service ruling that allows us to make the above deposit without causing the holders to be taxed on the debt securities any differently than if we did not make the deposit and just repaid the debt securities ourselves at maturity. Under current U.S. Federal tax law, the deposit and our legal release from the debt securities would be treated as though we paid each holder its share of the cash and notes or bonds at the time the cash and notes or bonds were deposited in trust in exchange for its debt securities and holders would recognize gain or loss on the debt securities at the time of the deposit; and

We must deliver to the trustee a legal opinion and officers' certificate stating that all conditions precedent to legal defeasance have been complied with.

If we ever did accomplish legal defeasance, as described above, holders would have to rely solely on the trust deposit for repayment of the debt securities. Holders could not look to us for repayment in the unlikely event of any shortfall. Conversely, the trust deposit would most likely be protected from claims of our lenders and other creditors if we ever became bankrupt or insolvent. If applicable, holders would also be released from the subordination provisions described later under Description of Debt Securities Indenture Provisions Subordination.

Resignation of Trustee

Each trustee may resign or be removed with respect to one or more series of indenture securities provided that a successor trustee is appointed to act with respect to such series. In the event that two or more persons are acting as trustee with respect to different series of indenture securities under the indenture, each of the trustees will be a trustee of a trust separate and apart from the trust administered by any other trustee.

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Indenture Provisions Subordination

Upon any distribution of our assets upon our dissolution, winding up, liquidation or reorganization, the payment of the principal of (and premium, if any) and interest on any indenture securities denominated as subordinated debt securities is to be subordinated to the extent provided in the indenture in right of payment to the prior payment in full of all Senior Indebtedness, but our obligation to holders to make payment of the principal of (and premium, if any) and interest on such subordinated debt securities will not otherwise be affected. In addition, no payment on account of principal (or premium, if any), interest or sinking fund, if any, may be made on such subordinated debt securities at any time unless full payment of all amounts due in respect of the principal (and premium, if any), interest and sinking fund, if any, on Senior Indebtedness has been made or duly provided for in money or money's worth.

In the event that, notwithstanding the foregoing, any payment from us is received by the trustee in respect of subordinated debt securities or by the holders of any of such subordinated debt securities before all Senior Indebtedness is paid in full, the payment or distribution must be paid over to the holders of the Senior Indebtedness or on their behalf for application to the payment of all the Senior Indebtedness remaining unpaid until all the Senior Indebtedness has been paid in full, after giving effect to any concurrent payment or distribution to the holders of the Senior Indebtedness. Subject to the payment in full of all Senior Indebtedness, the holders of such subordinated debt securities will be subrogated to the rights of the holders of the Senior Indebtedness to the extent of payments made to the holders of the Senior Indebtedness out of the distributive share of such subordinated debt securities.

By reason of this subordination, in the event of a distribution of our assets upon our insolvency, certain of our senior creditors may recover more, ratably, than holders of any subordinated debt securities. The related indenture will provide that these subordination provisions will not apply to money and securities held in trust under the defeasance provisions of the indenture.

Senior Indebtedness will be defined in an applicable indenture as the principal of (and premium, if any) and unpaid interest on:

our indebtedness (including indebtedness of others guaranteed by us), whenever created, incurred, assumed or guaranteed, for money borrowed (other than indenture securities issued under the indenture and denominated as subordinated debt securities), unless in the instrument creating or evidencing the same or under which the same is outstanding it is provided that this indebtedness is not senior or prior in right of payment to the subordinated debt securities; and

renewals, extensions, modifications and refinancings of any of such indebtedness.

The prospectus supplement accompanying any series of indenture securities denominated as subordinated debt securities will set forth the approximate amount of our Senior Indebtedness outstanding as of a recent date.

Trustee

We intend to name the indenture trustee for each series of indenture securities in the related prospectus supplement.

Certain Considerations Relating to Foreign Currencies

Debt securities denominated or payable in foreign currencies may entail significant risks. These risks include the possibility of significant fluctuations in the foreign currency markets, the imposition or modification of foreign exchange controls and potential illiquidity in the secondary market. These risks will vary depending upon the currency or currencies involved and will be more fully described in the applicable prospectus supplement.

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BOOK-ENTRY ISSUANCE

Unless otherwise indicated in the applicable prospectus supplement, securities will be issued in the form of one or more global certificates, or global securities, registered in the name of a depository or its nominee. Unless otherwise indicated in the applicable prospectus supplement, the depository will be The Depository Trust Company, or DTC. DTC has informed us that its nominee will be Cede & Co. Accordingly, we expect Cede & Co. to be the initial registered holder of all securities that are issued in global form. No person that acquires a beneficial interest in those securities will be entitled to receive a certificate representing that person's interest in the securities except as described herein or in the applicable prospectus supplement. Unless and until definitive securities are issued under the limited circumstances described below, all references to actions by holders of securities issued in global form will refer to actions taken by DTC upon instructions from its participants, and all references to payments and notices to holders will refer to payments and notices to DTC or Cede & Co., as the registered holder of these securities.

DTC has informed us that it is a limited-purpose trust company organized under the New York Banking Law, a banking organization within the meaning of the New York Banking Law, a member of the Federal Reserve System, a clearing corporation within the meaning of the New York Uniform Commercial Code, and a clearing agency registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934, as amended (the Exchange Act). DTC holds and provides asset servicing for U.S. and non-U.S. equity issues, corporate and municipal debt issues and money market instruments that DTC's participants deposit with DTC. DTC also facilitates the post-trade settlement among DTC's participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between DTC's participants' accounts, thereby eliminating the need for physical movement of certificates. DTC's participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. DTC is a wholly owned subsidiary of the Depository Trust & Clearing Corporation, or DTCC. DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies and clearing corporations that clear through or maintain a custodial relationship with a DTC participant, either directly or indirectly. The DTC rules applicable to its participants are on file with the SEC.

Persons that are not participants or indirect participants but desire to purchase, sell or otherwise transfer ownership of, or other interests in, securities may do so only through participants and indirect participants. Under a book-entry format, holders may experience some delay in their receipt of payments, as such payments will be forwarded by our designated agent to Cede & Co., as nominee for DTC. DTC will forward such payments to its participants, who will then forward them to indirect participants or holders. Holders will not be recognized by the relevant registrar, transfer agent, trustee or warrant agent as registered holders of the securities entitled to the benefits of our restated certificate of incorporation or the applicable indenture or warrant agreement. Beneficial owners that are not participants will be permitted to exercise their rights only indirectly through and according to the procedures of participants and, if applicable, indirect participants.

Under the rules, regulations and procedures creating and affecting DTC and its operations as currently in effect, DTC will be required to make book-entry transfers of securities among participants and to receive and transmit payments to participants. DTC rules require participants and indirect participants with which beneficial securities owners have accounts to make book-entry transfers and receive and transmit payments on behalf of their respective account holders.

Because DTC can act only on behalf of

participants, who in turn act only on behalf of participants or indirect participants; and

certain banks, trust companies and other persons approved by it,

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the ability of a beneficial owner of securities issued in global form to pledge such securities to persons or entities that do not participate in the DTC system may be limited due to the unavailability of physical certificates for these securities.

DTC has advised us that DTC will take any action permitted to be taken by a registered holder of any securities under our restated certificate of incorporation or the relevant indenture or warrant agreement only at the direction of one or more participants to whose accounts with DTC such securities are credited.

Unless otherwise indicated in the applicable prospectus supplement, a global security will be exchangeable for the relevant definitive securities registered in the names of persons other than DTC or its nominee only if:

DTC notifies us that it is unwilling or unable to continue as depository for that global security or if DTC ceases to be a clearing agency registered under the Exchange Act when DTC is required to be so registered;

we execute and deliver to the relevant registrar, transfer agent, trustee and/or warrant agent an order complying with the requirements of the applicable indenture or warrant agreement that the global security will be exchangeable for definitive securities in registered form; or

there has occurred and is continuing a default in the payment of any amount due in respect of the securities or, in the case of debt securities, an event of default or an event that, with the giving of notice or lapse of time, or both, would constitute an event of default with respect to these debt securities.

Any global security that is exchangeable under the preceding sentence will be exchangeable for securities registered in such names as DTC directs.

Upon the occurrence of any event described in the preceding paragraph, DTC is generally required to notify all participants of the availability of definitive securities. Upon DTC surrendering the global security representing the securities and delivery of instructions for re-registration, the registrar, transfer agent, trustee or warrant agent, as the case may be, will reissue the securities as definitive securities, and then such persons will recognize the holders of such definitive securities as registered holders of securities entitled to the benefits of our restated certificate of incorporation or the relevant indenture and/or warrant agreement.

Redemption notices will be sent to Cede & Co. as the registered holder of the global securities. If less than all of a series of securities are being redeemed, DTC will determine the amount of the interest of each direct participant to be redeemed in accordance with its then current procedures.

Except as described above, the global security may not be transferred except as a whole by DTC to a nominee of DTC or by a nominee of DTC to DTC or another nominee of DTC or to a successor depository we appoint. Except as described above, DTC may not sell, assign, transfer or otherwise convey any beneficial interest in a global security evidencing all or part of any securities unless the beneficial interest is in an amount equal to an authorized denomination for these securities.

The information in this section concerning DTC and DTC's book-entry system has been obtained from sources that we believe to be accurate, but we assume no responsibility for the accuracy thereof. None of MediciNova, any registrar and transfer agent, trustee, or warrant agent, or any agent of any of them, will have any responsibility or liability for any aspect of DTC's or any participant's records relating to, or for payments made on account of, beneficial interests in a global security, or for maintaining, supervising or reviewing any records relating to such beneficial interests.

Secondary trading in notes and debentures of corporate issuers is generally settled in clearing-house or next-day funds. In contrast, beneficial interests in a global security, in some cases, may trade in the DTC's same-day funds settlement system, in which secondary market trading activity in those beneficial interests would

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be required by DTC to settle in immediately available funds. There is no assurance as to the effect, if any, that settlement in immediately available funds would have on trading activity in such beneficial interests. Also, settlement for purchases of beneficial interests in a global security upon the original issuance of this security may be required to be made in immediately available funds.

Considerations Relating to Euroclear and Clearstream

Euroclear and Clearstream are securities clearing systems in Europe. Both systems clear and settle securities transactions between their participants through electronic, book-entry delivery of securities against payment.

Euroclear and Clearstream may be depositaries for a global security. In addition, if DTC is the depositary for a global security, Euroclear and Clearstream may hold interests in the global security as participants in DTC. As long as any global security is held by Euroclear or Clearstream, as depositary, you may hold an interest in the global security only through an organization that participates, directly or indirectly, in Euroclear or Clearstream. If Euroclear or Clearstream is the depositary for a global security and there is no depositary in the United States, you will not be able to hold interests in that global security through any securities clearance system in the United States. Payments, deliveries, transfers, exchanges, notices and other matters relating to the securities made through Euroclear or Clearstream must comply with the rules and procedures of those systems. Those clearing systems could change their rules and procedures at any time. MediciNova does not have control over those systems or their participants and assumes no responsibility for their activities. Transactions between participants in Euroclear or Clearstream, on one hand, and participants in DTC, on the other hand, when DTC is the depositary, would also be subject to DTC's rules and procedures.

Special Timing Considerations for Transactions in Euroclear and Clearstream

Investors will be able to make and receive through Euroclear and Clearstream payments, deliveries, transfers, exchanges, notices and other transactions involving any securities held through those clearing systems only on days when those systems are open for business. These clearing systems may not be open for business on days when banks, brokers and other institutions are open for business in the United States.

In addition, because of time-zone differences, U.S. investors who hold their interests in the securities through these clearing systems and wish to transfer their interests, or to receive or make a payment or delivery or exercise any other right with respect to their interests, on a particular day may find that the transaction will not be effected until the next business day in Luxembourg or Brussels, as applicable. Thus, investors who wish to exercise rights that expire on a particular day may need to act before the expiration date. In addition, investors who hold their interests through both DTC and Euroclear or Clearstream may need to make special arrangements to finance any purchases or sales of their interests between the U.S. and European clearing systems, and those transactions may settle later than would be the case for transactions within one clearing system.

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PLAN OF DISTRIBUTION

We may sell the securities in any of three ways (or in any combination): (a) to or through underwriters or dealers; (b) directly to a limited number of purchasers or to a single purchaser; or (c) through agents. The securities may be sold at-the-market to or through a market maker or into an existing trading market for the securities, on an exchange or otherwise. The prospectus supplement will set forth the terms of the offering of such securities, including:

the name or names of any underwriters, dealers or agents and the amounts of securities underwritten or purchased by each of them; and

the offering price of the securities and the proceeds to us and any discounts, commissions or concessions allowed or reallocated or paid to dealers.

Any offering price and any discounts or concessions allowed or reallocated or paid to dealers may be changed from time to time.

If underwriters are used in the sale of any securities, the securities will be acquired by the underwriters for their own accounts and may be resold from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The securities may be either offered to the public through underwriting syndicates represented by managing underwriters, or directly by underwriters. Generally, the underwriters' obligations to purchase the securities will be subject to certain conditions precedent. The underwriters will be obligated to purchase all of the securities if they purchase any of the securities.

In compliance with the guidelines of the Financial Industry Regulatory Authority, the maximum compensation to the underwriters or dealers in connection with the sale of our securities pursuant to this prospectus and the accompanying supplement to this prospectus may not exceed 8 percent of the aggregate offering price of the securities as set forth on the cover page of any prospectus supplement.

We may sell the securities through agents from time to time. The prospectus supplement will name any agent involved in the offer or sale of the securities and any commissions we pay to them. Generally, any agent will be acting on a best efforts basis for the period of its appointment.

We may authorize underwriters, dealers or agents to solicit offers by certain purchasers to purchase the securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. The contracts will be subject only to those conditions set forth in the prospectus supplement, and the prospectus supplement will set forth any commissions we pay for soliciting these contracts.

Agents and underwriters may be entitled to indemnification by us against certain civil liabilities, including liabilities under the Securities Act of 1933, as amended, or to contribution with respect to payments which the agents or underwriters may be required to make in respect thereof. Agents and underwriters may be customers of, engage in transactions with, or perform services for us in the ordinary course of business.

We may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be identified in the applicable prospectus supplement (or a post-effective amendment). We or one of our affiliates may loan or pledge securities to a financial institution or other third party that in turn may sell the securities using this prospectus. Such financial institution or third party may transfer its short position to investors in our securities or in connection with a simultaneous offering of other securities offered by this prospectus or otherwise.

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LEGAL MATTERS

The validity of the securities offered by this prospectus will be passed upon for us by Dechert LLP, Washington, D.C.

EXPERTS

The consolidated financial statements of MediciNova, Inc. appearing in MediciNova, Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2008 have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon included therein, and incorporated herein by reference. Such financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

INCORPORATION BY REFERENCE

We incorporate by reference certain documents that we have filed with the SEC into this prospectus, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is deemed to be part of this prospectus, except for any information superseded by information contained directly in this prospectus. This prospectus incorporates by reference our:

Annual report on Form 10-K for the year ended December 31, 2008 filed with the SEC on March 31, 2009;

Quarterly report on Form 10-Q for the quarters ended March 31, 2009, June 30, 2009 and September 30, 2009 filed with the SEC on May 15, 2009, August 14, 2009 and November 12, 2009, respectively;

Current reports on Form 8-K filed with the SEC on January 21, 2009, February 9, 2009, February 27, 2009, March 12, 2009, March 20, 2009, March 24, 2009, March 30, 2009, May 29, 2009, June 16, 2009, June 22, 2009, June 25, 2009, July 2, 2009, July 13, 2009, July 16, 2009, August 24, 2009, September 4, 2009, September 16, 2009, September 25, 2009, October 5, 2009, November 17, 2009 and December 9, 2009;

Definitive Proxy Statement on Schedule 14A filed with the SEC on April 29, 2009; and

Registration Statement on Form 8-A filed with the SEC on January 26, 2005 and November 29, 2006.

We incorporate by reference the documents listed above and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the initial filing of the registration statement that contains this prospectus and prior to the termination of the offering of securities described in this prospectus; provided, however, that notwithstanding the foregoing, unless specifically stated to the contrary, none of the information that is not deemed filed with the SEC, including information furnished under Items 2.02 or 7.01 of any Current Report on Form 8-K, will be incorporated by reference into, or otherwise included in, this prospectus.

These documents may also be accessed on our website at www.medicinova.com. Information contained in, or accessible through, our website is not a part of this prospectus.

You may obtain documents incorporated by reference into this prospectus at no cost by writing or telephoning us at the following address:

MediciNova, Inc.

Attention: Shintaro Asako, Chief Financial Officer

4350 La Jolla Village Drive, Suite 950

Edgar Filing: MEDICINOVA INC - Form 424B5

San Diego, CA 92122

Tel: (858) 373-1500

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Any statements contained in a document incorporated by reference in this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus (or in any other subsequently filed document which also is incorporated by reference in this prospectus) modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed to constitute a part of this prospectus except as so modified or superseded.

WHERE YOU CAN FIND MORE INFORMATION

We make periodic filings and other filings required to be filed by us as a reporting company under Sections 13 and 15(d) of the Exchange Act. You may read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains an Internet site at www.sec.gov that contains the reports, proxy and information statements, and other information that we file with the SEC.

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\$20,600,000

Common Stock

MEDICINOVA, INC.

Prospectus Supplement

August 20, 2012