Filed Pursuant to Rule 424(b)(5)
Registration Statement No. 333-173266

PROSPECTUS SUPPLEMENT
(To Prospectus dated May 26, 2011)

2,030,000 Shares

Common Stock

We are offering 2,030,000 shares of common stock, par value $0.00000002 per share. Our common stock is listed on the Nasdaq Capital Market under the symbol “MEIP.” The last reported sale price of our common stock on the Nasdaq Capital Market on April 3, 2013 was $8.88 per share.

As of April 3, 2013, the aggregate market value of our outstanding common stock held by non-affiliates was approximately $74,265,697, based on 15,036,259 shares of outstanding common stock, of which approximately 7,007,535 shares were held by affiliates, and a price of $9.25 per share, which was the last reported sale price of our common stock on the Nasdaq Capital Market on March 4, 2013. As of the date of this prospectus supplement, we have not offered or sold any securities pursuant to General Instruction I.B.6. of Form S-3 during the prior 12 calendar month period that ends on, and includes, the date of this prospectus supplement.

An investment in our common stock involves significant risks. You should carefully consider the risk factors beginning on page S-4 of this prospectus supplement before investing in our common stock.

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.

	Per Share	Total
Price to public	$ 7.50	$ 15,225,000
Underwriting discounts and commissions(1)	$ 0.45	$ 913,500
Proceeds, before expenses, to us	$ 7.05	$ 14,311,500

(1) We have agreed to reimburse the underwriters for certain of their expenses as described under “Underwriting” on page S-16 of this prospectus supplement.

The underwriters expect to deliver the shares of common stock to the purchasers on or about April 10, 2013.

Joint Book-Runners

Stifel **Cowen and Company**

Co-Manager

Roth Capital Partners

The date of this Prospectus Supplement is April 4, 2013.

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Prospectus Supplement

Prospectus

You should rely only on the information contained in or incorporated by reference into this prospectus supplement and the accompanying base prospectus and any free writing prospectuses prepared by us or on our behalf. We have not authorized any person to provide any information or make any statement that differs from what is contained in this prospectus supplement, the accompanying base prospectus and any free writing prospectuses prepared by us or on our behalf. If any person does make a statement that differs from what is in this prospectus supplement, the accompanying base prospectus or any free writing prospectuses, you should not rely on it. This prospectus supplement is not an offer to sell, nor is it a solicitation of an offer to buy, these securities in any jurisdiction in which the offer or sale is not permitted. You should assume that the information contained in this prospectus supplement, the accompanying base prospectus, any free writing prospectus and the documents incorporated by reference is accurate only as of their respective dates, regardless of the time of delivery of this prospectus supplement, the accompanying base prospectus, any free writing prospectus or of any sale of shares of our common stock in this offering. Our business, financial condition, results of operations and prospects may have subsequently changed.

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying base prospectus are part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or SEC, using a "shelf" registration statement. Under the shelf registration statement, we may offer and sell any combination of securities described in the accompanying base prospectus in one or more offerings. The accompanying base prospectus provides you with a general description of the securities we may offer. Each time we use the accompanying base prospectus to offer securities, 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 the accompanying base prospectus.

This prospectus supplement, the accompanying base prospectus and the documents incorporated by reference herein include important information about us, our common stock and other information you should know before investing. This prospectus supplement describes the specific details regarding this offering, including the price, the amount of common stock being offered and the risks of investing in our common stock. The accompanying base prospectus provides general information about us, some of which may not apply to this offering.

To the extent that any statement that we make in this prospectus supplement is inconsistent with statements made in the accompanying base prospectus, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying base prospectus. You should read both this prospectus supplement and the accompanying base prospectus together with additional information described under the heading, "Where You Can Find More Information."

CAUTIONARY STATEMENT ABOUT FORWARD-LOOKING STATEMENTS

This prospectus supplement and the documents incorporated by reference herein include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act") and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). All statements other than statements of historical facts contained in this prospectus supplement and in the documents incorporated by reference herein, including statements regarding the future financial position, business strategy and plans and objectives of management for future operations, are forward-looking statements. The words "believe," "may," "will," "estimate," "continue," "anticipate," "intend," "should," "plan," "expect," and similar expressions, as they relate to us, are intended to identify forward-looking statements. We have based these forward-looking statements largely on current expectations and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including, without limitation, those described in "Risk Factors" in this prospectus supplement and in our Annual Report on Form 10-K for the fiscal year ended June 30, 2012, as amended, including, among other things:

- our inability to obtain required additional financing or financing available to us on acceptable terms, or at all, which may cause us to delay, scale-back or eliminate plans related to development of our drug candidates;
- we are in an early stage of clinical studies for our product candidates on which our development plans are based; clinical studies by their nature typically have a high level of risk and may not produce successful results;
- the results of pre-clinical studies and completed clinical trials are not necessarily predictive of future results, and our current drug candidates may not have favorable results in later studies or trials;
- our inability to maintain or enter into, and the risks resulting from our dependence upon, contractual arrangements necessary for the clinical development, manufacture, commercialization, marketing, sales and distribution of our product candidates;
- costs and delays in the clinical development programs and/or receipt of U.S. Food and Drug Administration (the "FDA") or other required governmental approvals, or the failure to obtain such approvals, for our product candidates;
- our failure to successfully commercialize our product candidates;
- the failure of any products to gain market acceptance;
- our inability to control the costs of manufacturing our products;
- competition and competitive factors;
- our inability to protect our patents or proprietary rights and obtain necessary rights to third party patents and intellectual property to operate our business;
- our inability to operate our business without infringing the patents and proprietary rights of others;
- costs stemming from our defense against third party intellectual property infringement claims;
- general economic conditions;
- technological changes;
- government regulation generally and the receipt of regulatory approvals;
- changes in industry practice; and
- one-time events.

These risks are not exhaustive. Other sections of this prospectus supplement and the documents incorporated by reference herein include additional factors which could adversely impact our business and financial performance. Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time and it is not possible for us to predict all risk factors, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

You should not rely upon forward looking statements as predictions of future events. We cannot assure you that the events and circumstances reflected in the forward looking statements will be achieved or occur. Although we believe that the expectations reflected in the forward looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements.

SUMMARY

This summary highlights selected information appearing elsewhere or incorporated by reference in this prospectus supplement and accompanying prospectus and may not contain all of the information that is important to you. This prospectus supplement and the accompanying prospectus include or incorporate by reference information about the shares we are offering as well as information regarding our business and detailed financial data. You should read this prospectus supplement and the accompanying prospectus in their entirety, including the information incorporated by reference.

The Company

MEI Pharma, Inc. (formerly Marshall Edwards Inc.) is a development-stage oncology company focused on the clinical development of novel small molecules for the treatment of cancer. We were incorporated in Delaware in 2000 as a wholly owned subsidiary of Novogen Limited ("Novogen"). Our common stock is listed on the Nasdaq Capital Market and was previously listed under the symbol "MSHL" through June 30, 2012. On July 2, 2012, in conjunction with the change of our corporate name to MEI Pharma, Inc., our common stock began trading under the symbol "MEIP". In December 2012, Novogen distributed to its shareholders substantially all of its MEI Pharma common stock.

Our business purpose is the development of drugs for the treatment of cancer. We are currently focused on the clinical development of our lead drug candidate, Pracinostat. Pracinostat is an orally available histone deacetylase (HDAC) inhibitor that has been tested in a number of Phase I and exploratory Phase II clinical trials in advanced hematologic malignancies such as myelodysplastic syndrome (MDS), acute myeloid leukemia (AML) and myelofibrosis, as well as in solid tumor indications in both adult and pediatric patients. We expect to initiate a blinded, placebo-controlled Phase II trial of Pracinostat in combination with azacitidine in patients with MDS during the second quarter of calendar year 2013. In August 2012, we completed the acquisition of certain assets and intellectual property, including those related to Pracinostat, from S*BIO Pte Ltd ("S*BIO").

As of December 31, 2012, our existing cash balances were approximately $26.9 million. In order to continue the development of our lead drug candidates, at some point in the future we may pursue one or more additional capital raising transactions, whether through the sale of equity securities or the entry into strategic partnerships.

Clinical Product Development Programs

We are currently focused on the clinical development of our lead drug candidate, Pracinostat. Pracinostat is an orally available selective inhibitor of a group of enzymes called histone deacetylases. HDACs belong to a larger set of proteins collectively known as epigenetic regulators that can alter gene expression by chemically modifying DNA or its associated chromosomal proteins. Abnormal activity of these regulators is believed to play an important role in cancer and other diseases. There are currently two HDAC inhibitors – one oral and one injectable – approved by the U.S. Food and Drug Administration (FDA) for the treatment of T-cell lymphoma.

Our clinical development pipeline also includes two isoflavone-based drug candidates, ME-143 and ME-344. ME-143 and ME-344 are derived from an isoflavone technology platform that has generated a number of compounds with anti-tumor activity in laboratory studies. These compounds have been shown to interact with specific targets resulting in the inhibition of tumor metabolism, a function critical for cancer cell survival.

We own exclusive worldwide rights to all of our drug candidates, including Pracinostat, ME-143 and ME-344.

Lead Drug Candidate: Pracinostat

Pracinostat is an orally available HDAC inhibitor that has been tested in more than 200 patients in multiple Phase I and signal-seeking Phase II clinical trials and found to be generally well tolerated with readily manageable side effects often associated with drugs of this class, including fatigue. The results of these studies also suggest that Pracinostat has potential best-in-class pharmacokinetic properties when compared to other oral HDAC inhibitors, including the late-stage drug candidate, Panobinostat, as well as the approved drug, Vorinostat.

Pracinostat has demonstrated clinical evidence of single-agent activity in patients with advanced hematologic disorders such as AML and myelofibrosis. In a Phase I dose-escalation trial in patients with AML, 14% of patients (two out of 14) achieved a complete response (CR), with the responses enduring for 206+ and 362 days. These results were presented at the American Society of Hematology (ASH) Annual Meeting in December 2010. In a pilot Phase II clinical trial in intermediate or high-risk myelofibrosis 36% of patients (eight of 22) demonstrated clinical benefit from Pracinostat treatment with 9% of patients (two out of 22) having a clinical improvement (anemia response) and 27% (six of 22) experiencing some reduction in splenomegaly. These results were published in the September 2012 issue of *Leukemia Research*.

Pracinostat has also shown evidence of synergistic activity when used in combination with the hypomethylating agent, Vidaza® (azacitidine) in patients with advanced MDS. Results from a pilot Phase II trial presented at the ASH Annual Meeting in December 2012 showed an overall response rate (CR+CRi+PR) of 89% (eight out of nine) among the nine patients treated at the MD Anderson Cancer Center. An additional patient treated at the University of Wisconsin-Madison achieved a complete response, increasing the overall response rate in the trial to 90% (nine out of 10).

We expect to initiate a blinded, placebo-controlled Phase II clinical trial of Pracinostat in combination with Vidaza in patients with advanced MDS during the second quarter of calendar year 2013. In addition, we plan to initiate two open label Phase II trials of Pracinostat in combination with hypomethylating agents during the third quarter of calendar year 2013, one in elderly patients with AML who are not suited for induction therapy and the other in patients with MDS who have not responded to prior hypomethylating agent treatment.

Isoflavone-Based Drug Candidates: ME-143 & ME-344

ME-143 is our next-generation NADH oxidase inhibitor drug candidate. The first-generation compound, Phenoxodiol, was administered to more than 400 patients in clinical studies via oral or intravenous routes. In a Phase II clinical trial of intravenously administered Phenoxodiol in combination with platinum-based chemotherapy in women with recurrent ovarian cancer, a clinical response was observed in 19% of patients (three out of 16). These results were published in the May 2011 issue of *International Journal of Gynecological Cancer*. ME-143 has demonstrated superior anti-tumor activity against a number of tumor cell lines compared to Phenoxodiol. In addition to broad single-agent activity, ME-143 has also shown a far superior ability to enhance the cytotoxic effects of chemotherapy in pre-clinical studies. Data from a Phase I trial of ME-143 in heavily treated patients with solid refractory tumors showed that the pharmacokinetic profile of intravenous ME-143 resulted in drug levels that were approximately 30 times higher than the exposure achieved in the Phase II trial of intravenous Phenoxodiol. These results were presented at the American Society of Clinical Oncology Annual Meeting in June 2012.

ME-344 is our next-generation mitochondrial inhibitor and an active metabolite of NV-128, the first-generation compound. In April 2011, data from a pre-clinical study of NV-128 were presented at AACR demonstrating its ability to induce mitochondrial instability, ultimately leading to cell death in otherwise chemotherapy-resistant ovarian cancer stem cells. These results were later published in the August 2011 issue of *Molecular Cancer Therapeutics*. In additional pre-clinical studies, ME-344 demonstrated superior anti-tumor activity against a broad range of human cancer cell lines compared to NV-128. Results from a Phase I trial of

intravenous ME-344 in patients with solid refractory tumors are expected in June 2013. The dose-escalation trial is evaluating the safety and tolerability of ME-344. In addition, the trial is designed to characterize the pharmacokinetic profile of intravenous ME-344 and describe any preliminary clinical anti-tumor activity observed.

Corporate Information

Our principal executive offices are located at 11975 El Camino Real, Suite 101, San Diego, California, 92130, and our phone number is (858) 792-6300. Our website is located at www.meipharma.com. Information on or accessible through our website is not part of, or incorporated by reference into, this prospectus supplement, other than documents filed with the SEC that we incorporate by reference.

The Offering

Common stock offered by us pursuant to this prospectus supplement	2,030,000 shares
Common stock outstanding after the offering	17,066,259 shares(1)
Use of proceeds	We intend to use the net proceeds from this offering, together with other available funds, to progress the clinical development program for our lead drug candidate, Pracinostat, and for other general corporate purposes. See “Use of Proceeds” on page S-13.
Nasdaq Capital Market symbol	“MEIP”
Risk factors	This investment involves a high degree of risk. See “Risk Factors” beginning on page S-4 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 risks you should consider carefully before making an investment decision.

(1) Based on 15,036,259 shares of common stock outstanding as of April 3, 2013. Excludes (i) 495,031 shares of our common stock subject to outstanding options, with exercise prices ranging from $2.76 to $37.80 per share, (ii) 400,000 restricted stock units, each representing the contingent right to receive one share of our common stock, (iii) 5,132,041 shares of our common stock subject to outstanding warrants, with exercise prices ranging from $3.12 to $130.20 per share, (iv) based on an assumed price per share of $8.88, which was the closing the last reported sale price of our common stock on the Nasdaq Capital Market on April 3, 2013, up to 56,306 shares of common stock that may be issuable upon our achievement of certain clinical and regulatory milestones pursuant to the terms of the August 2012 Asset Purchase Agreement between the Company and S*BIO, and (v) 1,357,302 shares of our common stock available for awards under our Amended and Restated 2008 Stock Omnibus Equity Compensation Plan, in each case as of April 3, 2013.

RISK FACTORS

Any investment in our common stock involves a high degree of risk. In addition to the other information included or incorporated by reference in this prospectus supplement and the accompanying prospectus, you should carefully consider the important factors set forth under the heading "Risk Factors" starting on page 17 of our Annual Report on Form 10-K for the fiscal year ended June 30, 2012 and incorporated herein by reference before investing in our common stock. For further details, see the sections entitled "Where You Can Find Additional Information" and "Incorporation of Certain Documents by Reference" in this prospectus supplement.

Any of the risk factors set forth below or referred to above could significantly and negatively affect our business, results of operations or financial condition, which may lower the trading price of our common stock. The risks referred to above are not the only ones that may exist. Additional risks not currently known by us or that we deem immaterial may also impair our business operations. You may lose all or a part of your investment.

Risks Related to Our Business

We will need additional funds to progress the clinical trial program for our drug candidates Pracinostat, ME-143 and ME-344, and to develop new compounds. The actual amount of funds we will need will be determined by a number of factors, some of which are beyond our control.

We will need additional funds to progress the clinical trial program for our drug candidates Pracinostat, ME-143 and ME-344 and to develop any additional compounds. The factors which will determine the actual amount of funds that we will need to progress the clinical trial programs for Pracinostat, ME-143 and ME-344 may include the following:

- the therapeutic indication for use being developed;
- the number of sites included in the trials;
- the length of time required to enroll suitable patients;
- the number of patients who participate in the trials and the rate that they are recruited;
- the number of treatment cycles patients complete while they are enrolled in the trials; and
- the efficacy and safety profile of the product.

If we are unable to obtain additional funds on favorable terms or at all, we may be required to cease or reduce our operations. Also, if we raise more funds by selling additional securities, the ownership interests of holders of our securities will be diluted.

We cannot assure you that we will be able to obtain financing sufficient to meet our future capital and operating needs.

We may sell additional shares of common stock, and securities exercisable for or convertible into shares of our common stock, to satisfy our capital and operating needs; however, such transactions will be subject to market conditions and there can be no assurance any such transactions will be completed. The investors in our May 2011 private placement have the right to acquire up to 35% of any securities we offer through September 28, 2013. Additionally, certain investors who participated in the December 2012 private placement have the right to purchase their pro rata portion of equity securities we offer through December 31, 2013 based on their equity ownership of the Company, after giving effect to the exercise of the participation right, if any, by the investors in our May 2011 private placement.

Future sales of our common stock, including common stock issued upon exercise of our outstanding warrants and stock options, may depress the market price of our common stock and cause stockholders to experience dilution.

The market price of our common stock could decline as a result of sales of substantial amounts of our common stock in the public market, including shares of common stock issued upon exercise of outstanding

warrants or stock options and any subsequent sales of such shares. As of April 3, 2013, we had outstanding (i) warrants issued in our December 2012 private placement exercisable to purchase 4,596,361 shares of Common Stock at an exercise price of $3.12 per share, which expire on December 18, 2017; (ii) warrants issued in our May 2012 rights offering exercisable to purchase 319,191 shares of Common Stock at an exercise price of $7.14, which expire on May 10, 2017; (iii) Series A warrants issued in our May 2011 private placement exercisable to purchase 215,721 shares of Common Stock at an exercise price of $6.00, which expire on May 11, 2016; and (iv) other outstanding warrants exercisable to purchase 768 shares of our Common Stock at an exercise price of $130.20 per share, which expire in calendar year 2013. We may seek additional capital through one or more additional equity transactions in the future; however, such transactions will be subject to market conditions and there can be no assurance any such transactions will be completed. If we sell shares in the future, the prices at which we sell these future shares will vary, and these variations may be significant. Purchasers of the Shares will experience significant dilution if we sell these future shares at prices significantly below the price at which previous shareholders invested.

The number of shares of our common stock outstanding has increased substantially as a result of our December 2012 private placement, and some of the purchasers in the private placement beneficially own significant amounts of our common stock.

In December 2012, we completed the private placement of an aggregate of (i) 9,166,665 shares of our common stock and (ii) warrants to purchase an aggregate of 6,416,665 shares of our common stock. Some of the purchasers in the private placement beneficially own significant amounts of our common stock and will have a corresponding influence over the outcome of any stockholder vote, including the election of directors and the approval of mergers or other business combination transactions.

Negative global economic conditions may pose challenges to our business strategy, which relies on access to capital from the markets or collaborators.

Negative conditions in the global economy, including credit markets and the financial services industry, have generally made equity and debt financing more difficult to obtain, and may negatively impact our ability to complete financing transactions. The duration and severity of these conditions is uncertain, as is the extent to which they may adversely affect our business and the business of current and prospective vendors and collaborators. If negative global economic conditions persist or worsen, we may be unable to secure additional funding to sustain our operations or to find suitable collaborators to advance our internal programs, even if we achieve positive results from our research and development efforts.

We have a limited operating history and are likely to incur operating losses for the foreseeable future.

You should consider our prospects in light of the risks and difficulties frequently encountered by early stage and developmental companies. We were incorporated in December 2000, and have been in operation since May 2002. We have incurred net losses of $90.3 million from our inception through December 31, 2012, including net losses of $7.5 million and $6.8 million for the years ended June 30, 2012 and 2011, respectively. We anticipate that we will incur operating losses and negative operating cash flow for the foreseeable future. We have not yet commercialized any drug candidates and cannot be sure that we will ever be able to do so, or that we may ever become profitable.

Our stockholders may not realize a benefit from the purchase of intellectual property commensurate with the associated ownership dilution experienced.

In May 2011, we completed the acquisition (the “Isoflavone Transaction”) of certain assets used in or generated under or in connection with the discovery, development, manufacture and marketing of intellectual property and products based on the field of isoflavonoid technology and on compounds known as isoflavones, including those related to the drug candidates ME-143 and ME-344 (the “Isoflavone-related Assets”), from Novogen. Additionally, in August 2012, we completed the acquisition of certain assets and intellectual property, including those related to Pracinostat, from S*BIO.

If we are unable to realize the expected strategic and financial benefits from the purchase of intellectual property, our stockholders may experience substantial dilution of their ownership interest resulting from the issuance of shares of common stock upon the conversion of the Series A Convertible Preferred Stock issued to Novogen to acquire the Isoflavone-related Assets and as a result of the issuance of shares of common stock to S*BIO to acquire certain assets and intellectual property, including those related to Pracinostat, without receiving any commensurate benefit. Upon consummation of the Isoflavone Transaction, we issued to Novogen 1,000 shares of our Series A Convertible Preferred Stock which were initially convertible into an aggregate of 804,500 shares of our common stock. In November 2012, we issued 804,500 shares of common stock to Novogen upon its conversion of the Series A Convertible Preferred Stock. Although in the Isoflavone Asset Purchase Agreement Novogen made certain representations and warranties regarding its intellectual property rights in respect of the Isoflavone-related Assets, Novogen's indemnification obligations, which were limited and payable solely by the forfeiture of our securities issued as consideration in the Isoflavone Transaction, expired on June 30, 2011. Similarly, in the asset purchase agreement relating to the acquisition of certain assets and intellectual property from S*BIO, S*BIO made certain representations and warranties regarding its intellectual property rights to such assets; however, its indemnification obligations with respect to such representations and warranties are limited.

Accordingly, we do not expect to be adequately compensated, if at all, for the loss of any such intellectual property rights acquired in the Isoflavone Transaction or in the acquisition from S*BIO.

The results of pre-clinical studies and completed clinical trials are not necessarily predictive of future results, and our current drug candidates may not have favorable results in later studies or trials.

Pre-clinical studies and Phase I clinical trials are not primarily designed to test the efficacy of a drug candidate, but rather to test safety, to study pharmacokinetics and pharmacodynamics, and to understand the drug candidate's side effects at various doses and schedules. Favorable results in early studies or trials may not be repeated in later studies or trials, including continuing pre-clinical studies, Phase II and large-scale Phase III clinical trials, and our drug candidates in later-stage trials may fail to show desired safety and efficacy despite having progressed through earlier-stage trials. Unfavorable results from ongoing pre-clinical studies or clinical trials could result in delays, modifications or abandonment of ongoing or future clinical trials, or abandonment of a clinical program. Pre-clinical and clinical results are frequently susceptible to varying interpretations that may delay, limit or prevent regulatory approvals or commercialization. Negative or inconclusive results or adverse medical events during a clinical trial could cause a clinical trial to be delayed, repeated or terminated, or a clinical program to be abandoned.

Final approval by regulatory authorities of our drug candidates for commercial use may be delayed, limited or prevented, any of which would adversely affect our ability to generate operating revenues.

We will not generate any operating revenue until we successfully license or commercialize one of our drug candidates. Currently, we have drug candidates at different stages of development, and each will need to successfully complete a number of studies and obtain regulatory approval before potential commercialization.

In particular, any of the following factors may serve to delay, limit or prevent the final approval by regulatory authorities of our drug candidates for commercial use:

- Pracinostat, ME-143 and ME-344 are in the early stages of development, and we will need to conduct significant clinical testing to demonstrate safety and efficacy of these drug candidates before applications for marketing can be filed with the FDA, or with the regulatory authorities of other countries;
- data obtained from pre-clinical and clinical studies can be interpreted in different ways, which could delay, limit or prevent regulatory approval;
- development and testing of product formulation, including identification of suitable excipients, or chemical additives intended to facilitate delivery of our drug candidates;

- it may take us many years to complete the testing of our drug candidates, and failure can occur at any stage of this process; and
- negative or inconclusive results or adverse medical events during a clinical trial could cause us to delay or terminate our development efforts.

The successful development of any of these drug candidates is uncertain and, accordingly, we may never commercialize any of these drug candidates or generate revenue.

Even if we receive regulatory approval to commercialize our drug candidates, our ability to generate revenues from any resulting products will be subject to a variety of risks, many of which are out of our control.

Even if our drug candidates obtain regulatory approval, resulting products may not gain market acceptance among physicians, patients, healthcare payers or the medical community. We believe that the degree of market acceptance and our ability to generate revenues from such products will depend on a number of factors, including:

- timing of market introduction of our drugs and competitive drugs;
- actual and perceived efficacy and safety of our drug candidates;
- prevalence and severity of any side effects;
- potential or perceived advantages or disadvantages over alternative treatments;
- strength of sales, marketing and distribution support;
- price of our future products, both in absolute terms and relative to alternative treatments;
- the effect of current and future healthcare laws on our drug candidates; and
- availability of coverage and reimbursement from government and other third-party payers.

If any of our drugs are approved and fail to achieve market acceptance, we may not be able to generate significant revenue to achieve or sustain profitability.

We may not be able to establish the contractual arrangements necessary to develop, market and distribute our product candidates.

A key part of our business plan is to establish contractual relationships with third parties to package, market and distribute our product candidates. There is no assurance that we will be able to negotiate commercially acceptable licensing or other agreements for the future exploitation of our drug product candidates, including continued clinical development, manufacture or marketing. If we are unable to successfully contract for these services, or if arrangements for these services are terminated, we may have to delay our commercialization program which will adversely affect our ability to generate operating revenues.

Our commercial opportunity will be reduced or eliminated if competitors develop and market products that are more effective, have fewer side effects or are less expensive than our drug candidates.

The development of drug candidates is highly competitive. A number of other companies have products or drug candidates that have either been approved or are in various stages of pre-clinical or clinical development that are intended for the same therapeutic indications for which our drug candidates are being developed. Some of these potential competing drugs are further advanced in development than our drug candidates and may be commercialized sooner. Even if we are successful in developing effective drugs, our compounds may not compete successfully with products produced by our competitors.

Our competitors include pharmaceutical companies and biotechnology companies, as well as universities and public and private research institutions. In addition, companies active in different but related fields represent substantial competition for us. Many of our competitors developing oncology drugs have significantly greater capital resources, larger research and development staffs and facilities and greater experience in drug

development, regulation, manufacturing and marketing than we do. These organizations also compete with us and our service providers, to recruit qualified personnel, and with us to attract partners for joint ventures and to license technologies that are competitive with us. As a result, our competitors may be able to more easily develop technologies and products that would render our technologies or our drug candidates obsolete or non-competitive.

We rely on third parties to conduct our clinical trials and many of our pre-clinical studies. If those parties do not successfully carry out their contractual duties or meet expected deadlines, our drug candidates may not advance in a timely manner or at all.

In the course of our discovery, pre-clinical testing and clinical trials, we rely on third parties, including laboratories, investigators, clinical contract research organizations, or CROs, and manufacturers, to perform critical services for us. For example, we rely on third parties to conduct our clinical trials and many of our pre-clinical studies. CROs are responsible for many aspects of the trials, including finding and enrolling subjects for testing and administering the trials. Although we rely on these third parties to conduct our clinical trials, we are responsible for ensuring that each of our clinical trials is conducted in accordance with its investigational plan and protocol. Moreover, the FDA and foreign regulatory authorities require us 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 protected and informed of the potential risks of participating in clinical trials. Our reliance on third parties does not relieve us of these responsibilities and requirements. These third parties may not be available when we need them or, if they are available, may not comply with all regulatory and contractual requirements or may not otherwise perform their services in a timely or acceptable manner, and we may need to enter into new arrangements with alternative third parties and our clinical trials may be extended, delayed or terminated. These independent third parties may also have relationships with other commercial entities, some of which may compete with us. In addition, if such third parties fail to perform their obligations in compliance with our clinical trial protocols or GCPs, our clinical trials may not meet regulatory requirements or may need to be repeated. As a result of our dependence on third parties, we may face delays or failures outside of our direct control. These risks also apply to the development activities of collaborators, and we do not control their research and development, clinical trial or regulatory activities.

We have no direct control over the cost of manufacturing our drug candidates. Increases in the cost of manufacturing our drug candidates would increase our costs of conducting clinical trials and could adversely affect our future profitability.

We do not intend to manufacture our drug product candidates ourselves, and we will rely on third parties for our drug supplies both for clinical trials and for commercial quantities in the future. We have taken the strategic decision not to manufacture active pharmaceutical ingredients (“API”) for our drug candidates, as these can be more economically supplied by third parties with particular expertise in this area. We have identified contract facilities that are registered with the FDA, have a track record of large scale API manufacture, and have already invested in capital and equipment. We have no direct control over the cost of manufacturing our product candidates. If the cost of manufacturing increases, or if the cost of the materials used increases, these costs will be passed on to us, making the cost of conducting clinical trials more expensive. Increases in manufacturing costs could adversely affect our future profitability if we are unable to pass all of the increased costs along to our customers. We also rely on the contract manufacturers to comply with FDA regulatory requirements for good manufacturing practices.

We face a risk of product liability claims and may not be able to obtain adequate insurance.

Our business exposes it to the risk of product liability claims. This risk is inherent in the manufacturing, testing and marketing of human therapeutic products. We have product liability insurance coverage of $5 million. The coverage is subject to deductibles and coverage limitations. We may not be able to obtain or maintain

adequate protection against potential liabilities, or claims may exceed our insurance limits. If we cannot or do not sufficiently insure against potential product liability claims, we may be exposed to significant liabilities, which may materially and adversely affect our business development and commercialization efforts.

Laws, rules and regulations relating to public companies may be costly and impact our ability to attract and retain directors and executive officers.

Laws and regulations affecting public companies, including rules adopted by the SEC and by Nasdaq, may result in increased costs to us. These laws, rules and regulations could make it more difficult or costly for us to obtain certain types of insurance, including director and officer liability insurance, and we may be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. The impact of these events could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, on our board committees or as executive officers. We cannot estimate accurately the amount or timing of additional costs we may incur to respond to these laws, rules and regulations.

Risks Relating to Our Intellectual Property

Our commercial success is dependent, in part, on obtaining and maintaining patent protection and preserving trade secrets, which cannot be guaranteed.

Patent protection and trade secret protection are important to our business and our future will depend, in part on our ability to maintain trade secret protection, obtain patents and operate without infringing the proprietary rights of others both in the United States and abroad. Litigation or other legal proceedings may be necessary to defend against claims of infringement, to enforce our patents or to protect our trade secrets. Such litigation could result in substantial costs and diversion of our management's attention.

The patent positions of pharmaceutical and biotechnology companies can be highly uncertain and involve complex legal and factual questions. Prior to the Isoflavone Transaction, Novogen had applied for patents in a number of countries with respect to the use of their isoflavone compounds, including ME-143 and ME-344, for the treatment, prevention or cure of cancer and methods of production. We acquired both issued patents and pending patent applications from Novogen in relation to these technologies, which we previously licensed from Novogen. Additionally, in August 2012 we acquired patents and patent applications related to Pracinostat from S*BIO. The patent applications may not proceed to grant or may be amended to reduce the scope of protection of any patent granted. The applications and patents may also be opposed or challenged by third parties. Our commercial success will depend, in part, on our ability to obtain and maintain effective patent protection for our compounds and their use in treating, preventing, or curing cancer, and to successfully defend patent rights in those technologies against third-party challenges. As patent applications in the United States are maintained in secrecy until published or issued and as publication of discoveries in the scientific or patent literature often lag behind the actual discoveries, we cannot be certain that Novogen or S*BIO were the first to make the inventions covered by its pending patent applications or issued patents that we acquired or that it was the first to file patent applications for such inventions. Additionally, the breadth of claims allowed in biotechnology and pharmaceutical patents or their enforceability cannot be predicted. We cannot be sure that, should any patents issue, we will be provided with adequate protection against potentially competitive products. Furthermore, we cannot be sure that should patents issue, they will be of commercial value to us, or that private parties, including competitors, will not successfully challenge our patents or circumvent our patent position in the United States or abroad.

Claims by other companies that we infringe on their proprietary technology may result in liability for damages or stop our development and commercialization efforts.

The pharmaceutical industry is highly competitive and patents have been applied for by, and issued to, other parties relating to products competitive with the compounds that we have acquired. Therefore, Pracinostat,

ME-143, ME-344, and any other drug candidates may give rise to claims that they infringe the patents or proprietary rights of other parties existing now and in the future.

Furthermore, to the extent that we or our consultants or research collaborators use intellectual property owned by others in work performed for us, disputes may also arise as to the rights in such intellectual property or in resulting know-how and inventions. An adverse claim could subject us to significant liabilities to such other parties and/or require disputed rights to be licensed from such other parties.

We have contracted formulation development and manufacturing process development work for our product candidates. This process has identified a number of excipients, or additives to improve drug delivery, which may be used in the formulations. Excipients, among other things, perform the function of a carrier of the active drug ingredient. Some of these identified excipients or carriers may be included in third party patents in some countries. We intend to seek a license if we decide to use a patented excipient in the marketed product or we may choose one of those excipients that does not have a license requirement.

We cannot be sure that any license required under any such patents or proprietary rights would be made available on terms acceptable to us, if at all. If we do not obtain such licenses, we may encounter delays in product market introductions, or may find that the development, manufacture or sale of products requiring such licenses may be precluded. We have not conducted any searches or made any independent investigations of the existence of any patents or proprietary rights of other parties.

We may be subject to substantial costs stemming from our defense against third-party intellectual property infringement claims.

Third parties may assert that we are using their proprietary information without authorization. Third parties may also have or obtain patents and may claim that technologies licensed to or used by us infringe their patents. If we are required to defend patent infringement actions brought by third parties, or if we sue to protect our own patent rights, we may be required to pay substantial litigation costs and managerial attention may be diverted from business operations even if the outcome is not adverse to us. In addition, any legal action that seeks damages or an injunction to stop us from carrying on our commercial activities relating to the affected technologies could subject us to monetary liability and require us or any third party licensors to obtain a license to continue to use the affected technologies. We cannot predict whether we would prevail in any of these types of actions or that any required license would be made available on commercially acceptable terms or at all.

Risks Related to Securities Markets and Investment in our Stock

The trading price of the shares of our common stock has been and may continue to be highly volatile and could decline in value and we may incur significant costs from class action litigation.

The trading price of our common stock could be highly volatile in response to various factors, many of which are beyond our control, including:

- failure to successfully develop our lead drug candidate, Pracinostat;
- announcements of technological innovations by us or our competitors;
- new products introduced or announced by us or our competitors;
- changes in financial estimates by securities analysts;
- actual or anticipated variations in operating results;
- expiration or termination of licenses research contracts or other collaboration agreements;
- conditions or trends in the regulatory climate and the biotechnology, pharmaceutical and genomics industries;
- instability in the stock market as a result of current global events;
- changes in the market valuations of similar companies;

- the liquidity of any market for our securities;
- additional sales by us of shares of our common stock; and
- threatened or actual delisting of our common stock from a national stock exchange.

Equity markets in general, and the market for biotechnology and life sciences companies in particular, have experienced substantial price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of companies traded in those markets. In addition, changes in economic conditions in the U.S., Europe or globally, particularly in the context of current global events, could impact upon our ability to grow profitably. Adverse economic changes are outside our control and may result in material adverse impacts on our business or our results of operations. These broad market and industry factors may materially affect the market price of shares of our common stock, regardless of our development and operating performance. In the past, following periods of volatility in the market price of a company's securities, securities class-action litigation has often been instituted against that company. Such litigation, if instituted against us, could cause us to incur substantial costs and divert management's attention and resources.

Future sales or other issuances of our common stock could depress the market for our common stock.

Sales of a substantial number of shares of our common stock, or the perception by the market that those sales could occur, could cause the market price of our common stock to decline or could make it more difficult for us to raise funds through the sale of equity in the future.

In connection with this offering, we have entered into a lock-up agreement for a period of 90 days following this offering and our directors and officers have entered into lock-up agreements for a period of 90 days following this offering (which periods may be extended under certain circumstances). We and our directors and officers may be released from the lock-up prior to the expiration of the lock-up period at the sole discretion of Stifel, Nicolaus & Company, Incorporated. See "Underwriting." Upon expiration or earlier release of the lock-up, we and our directors and officers may sell shares into the market, which could adversely affect the market price of shares of our common stock.

Future issuances of common stock could further depress the market for our common stock.

Investors in this offering will experience immediate and substantial dilution and may experience further dilution in the future.

The public offering price of the common stock offered pursuant to this prospectus supplement is substantially higher than the net tangible book value per share of our common stock. Therefore, if you purchase shares of common stock in this offering, you will incur immediate and substantial dilution in the pro forma net tangible book value per share of common stock from the price per share that you pay for the common stock. See the section entitled "Dilution" below for a more detailed discussion of the dilution you will incur if you purchase shares in this offering. Furthermore, we expect that we will seek to raise additional capital from time to time in the future. Such financings may involve the issuance of equity and/or securities convertible into or exercisable or exchangeable for our equity securities. We also expect to continue to utilize equity-based compensation. To the extent the warrants and options are exercised or we issue common stock, preferred stock, or securities such as warrants that are convertible into, exercisable or exchangeable for, our common stock or preferred stock in the future, you may experience further dilution.

We will have broad discretion over the use of the net proceeds from this offering.

We will have broad discretion to use the net proceeds from the sale of common stock in this offering, and investors in our stock will be relying on the judgment of our board of directors and management regarding the application of these proceeds. Although we expect to use a substantial portion of the net proceeds from this offering for general corporate purposes and the progression of our clinical trial program, we have not allocated these net proceeds for specific purposes.

Because we do not intend to pay, and have not paid, any cash dividends on our shares of common stock, our stockholders will not be able to receive a return on their shares unless the value of our common stock appreciates and they sell their shares.

We have never paid or declared any cash dividends on our common stock, and we intend to retain any future earnings to finance the development and expansion of our business. We do not anticipate paying any cash dividends on our common stock in the foreseeable future. Therefore, our stockholders will not be able to receive a return on their investment unless the value of our common stock appreciates and they sell their shares.

We are authorized to issue blank check preferred stock, which could adversely affect the holders of our common stock.

Our restated certificate of incorporation allows us to issue blank check preferred stock with rights potentially senior to those of our common stock without any further vote or action by the holders of our common stock. Although our Series A Convertible Preferred Stock, our only outstanding preferred stock, does not contain dividend or voting preferences, the issuance of a class of preferred stock could decrease the amount of earnings and assets available for distribution to the holders of our common stock or could adversely affect the rights and powers, including voting rights, of such holders. In certain circumstances, such issuance could have the effect of decreasing the market price of our shares, or making a change in control of us more difficult.

Our executive officers and directors may sell shares of their stock, and these sales could adversely affect our stock price.

Sales of our stock by our executive officers and directors, or the perception that such sales may occur, could adversely affect the market price of our stock. Our executive officers and directors may sell stock in the future, either as part, or outside, of trading plans under Securities and Exchange Commission, or SEC, Rule 10b5-1.

USE OF PROCEEDS

We estimate that the net proceeds from our sale of 2,030,000 shares of our common stock in this offering will be approximately $14,111,500, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

We intend to use the net proceeds from this offering, together with other available funds, to progress the clinical development program for our lead drug candidate, Pracinostat, and for other general corporate purposes.

We have not specifically identified the precise amounts we will spend on particular areas or the timing of these expenditures. The amounts actually expended for each purpose may vary significantly depending upon numerous factors, including the amount and timing of the proceeds from this offering, the progress of our clinical trials and other product development activities. In addition, expenditures may also depend on the establishment of new collaborative arrangements with other partners, the availability of other financing and other factors.

We anticipate that we will be required to raise substantial additional capital to continue to fund the clinical development of our drug candidates. We expect to seek to raise additional capital through additional public or private financings, principally through equity issuances.

MARKET PRICE AND DIVIDEND INFORMATION

Our Common Stock is currently listed on the Nasdaq Capital Market under the symbol "MEIP." As of April 3, 2012, we had 15,036,259 shares of our Common Stock outstanding, held by approximately 3,586 holders of record. Prior to March 16, 2011, our Common stock was listed on the Nasdaq Global Market.

The following table sets forth the quarterly high and low sales prices of our Common Stock on the Nasdaq Capital Market or the Nasdaq Global Market, as applicable, for the periods indicated, after adjustment of all amounts to retroactively reflect the 1-for-10 reverse stock split that occurred on March 29, 2010 and the 1-for-6 reverse stock split that occurred on December 18, 2012:

	Share Prices	
	High	Low
Year Ending June 30, 2013		
First Quarter	$ 4.80	$1.98
Second Quarter	$13.20	$2.10
Third Quarter	$ 9.65	$4.37
Fourth Quarter (through April 3, 2013)	$ 9.40	$8.32
Year Ended June 30, 2012		
First Quarter	$19.68	$5.88
Second Quarter	$10.50	$5.70
Third Quarter	$ 7.68	$3.96
Fourth Quarter	$ 6.66	$2.46
Year Ended June 30, 2011		
First Quarter	$ 9.30	$4.26
Second Quarter	$ 8.40	$4.38
Third Quarter	$20.88	$5.82
Fourth Quarter	$11.94	$5.52

We have never paid or declared any cash dividends on our Common Stock, and we intend to retain any future earnings to finance the development and expansion of our business. We do not anticipate paying any cash dividends on our Common Stock in the foreseeable future.

DILUTION

Our net tangible book value as of December 31, 2012 was approximately $25.3 million, or $1.68 per share of common stock. Net tangible book value per share is equal to our total tangible assets minus total liabilities, all divided by the number of shares of common stock outstanding. After giving effect to the sale by us of 2,030,000 shares of our common stock offered by this prospectus supplement at a public offering price of $7.50 per share, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, our adjusted net tangible book value as of December 31, 2012 would have been $39.4 million, or $2.31 per share of common stock. This represents an immediate increase in net tangible book value of approximately $0.63 per share to existing stockholders and an immediate dilution of approximately $5.19 per share to new investors purchasing our common stock in this offering. The following table illustrates this calculation on a per share basis:

Public offering price for one share of common stock		$7.50
Net tangible book value per share as of December 31, 2012	$1.68	
Increase per share attributable to new investors in this offering	$0.63	
As-adjusted net tangible book value per share as of December 31, 2012, after giving effect to this offering		$2.31
Dilution per share to new investors in this offering		$5.19

The number of shares of common stock shown above to be outstanding after this offering is based on 15,015,454 shares outstanding as of December 31, 2012 and excludes:

- the remaining warrants issued in the December 2012 private placement exercisable to purchase 4,596,361 shares of our Common Stock at an exercise price of $3.12 per share;
- the remaining Series A warrants issued in the May 2011 private placement exercisable to purchase 215,721 shares of our Common Stock at an exercise price of $6.00 per share;
- other outstanding warrants to purchase 768 shares of our Common Stock at an exercise price of $130.20 per share, which expire in calendar year 2013, and options to purchase 495,031 shares of Common Stock at exercise prices from $2.76 to $37.80 per share, which expire at various dates in calendar years 2014, 2015, 2016, 2017 and 2018; and
- based on an assumed price per share of $8.88, which was the closing the last reported sale price of our common stock on the Nasdaq Capital Market on April 3, 2013, up to 56,306 shares of common stock that may be issuable upon our achievement of certain clinical and regulatory milestones pursuant to the terms of the August 2012 Asset Purchase Agreement between the Company and S*BIO.

To the extent outstanding warrants or options are exercised, there will be further dilution to new investors. In addition, to the extent we issue additional equity securities in connection with future capital raising activities, our then-existing stockholders may experience dilution.

UNDERWRITING

Under the terms and subject to the conditions set forth in an underwriting agreement dated the date of this prospectus supplement, the underwriters named below, for whom Stifel, Nicolaus & Company, Incorporated ("Stifel") and Cowen and Company, LLC are acting as representatives, have severally agreed to purchase, and we have agreed to sell to them, the number of shares of our common stock indicated below:

Name	Number of Shares
Stifel, Nicolaus & Company, Incorporated	1,319,500
Cowen and Company, LLC	609,000
Roth Capital Partners, LLC	101,500
Total	2,030,000

The underwriting agreement provides that the obligations of the several underwriters are subject to various conditions, including approval of legal matters by counsel. The nature of the underwriters' obligations commits them to purchase and pay for all of the shares of common stock listed above if any are purchased.

The representatives expect to deliver the shares of common stock to purchasers on or about April 10, 2013.

Commissions and Discounts

The underwriters initially propose to offer the shares of common stock directly to the public at the offering price listed on the cover page of this prospectus supplement. After the initial offering of the shares of common stock, the offering price and other selling terms may from time to time be varied by the representatives.

The following table shows the per share and total public offering price, underwriting discounts and commissions, and proceeds before expenses to us.

	Per Share	Total
Price to public	$7.50	$15,225,000
Underwriting discounts and commissions	$0.45	$ 913,500
Proceeds, before expenses, to us	$7.05	$14,311,500

The estimated offering expenses payable by us, exclusive of the underwriting discounts and commissions, are approximately $200,000, which amount includes $60,000 that we have agreed to reimburse the underwriters for their fees and expenses, including the fees and expenses of their counsel.

Indemnification of Underwriters

We will indemnify the underwriters against some civil liabilities, including liabilities under the Securities Act. If we are unable to provide this indemnification, we will contribute to payments the underwriters may be required to make in respect of those liabilities.

No Sales of Similar Securities

We and our directors and officers have agreed that, without the prior written consent of Stifel, we and they will not, during the period ending 90 days after the date of this prospectus supplement (the "Lock-Up Period"):

- offer, sell, contract to sell (including any short sale), pledge, hypothecate, establish an open "put equivalent position" within the meaning of Rule 16a-1(h) under the Securities Exchange Act of 1934, as amended, grant any option, right or warrant for the sale of, purchase any option or contract to sell, sell any option or contract to purchase, or otherwise encumber, dispose of or transfer, or grant any rights with respect to, directly or indirectly, any shares of common stock or securities convertible into or exchangeable or exercisable for any shares of common stock, or enter into a transaction which would have the same effect;
- enter into any swap, hedge or other arrangement that transfers, in whole or in part, any of the economic consequences of ownership of the common stock, whether any such aforementioned transaction is to be settled by delivery of the common stock or such other securities, in cash or otherwise; or
- publicly disclose the intention to make any such offer, sale, pledge or disposition, or to enter into any such transaction, swap, hedge or other arrangement.

The restrictions described in the immediately preceding paragraph do not apply to:

- bona fide gifts by the undersigned, provided that (a) each resulting transferee of the Company's securities who is not a Controlled Party executes and delivers to Stifel an agreement satisfactory to Stifel certifying that such transferee is bound by the terms of the lock-up agreement and has been in compliance with the terms of such agreement since the date of the same as if it had been an original party hereto and (b) to the extent any interest in the Company's securities is retained by the party subject to the Lock-Up Period, such securities shall remain subject to the restrictions contained in the lock-up agreement;
- the exercise of options to purchase common stock expiring during the Lock-Up Period (provided that, unless otherwise provided, such shares of common stock received upon exercise will also be subject to the lock-up agreement) and the disposition to the Company of shares of common stock acquired upon the exercise of such stock options to the extent necessary to pay the exercise price and related withholding taxes;
- the disposition of shares of common stock to the extent necessary to pay withholding taxes due in connection with the vesting of restricted stock during the Lock-Up Period;
- the transfer of common stock or options to an ex-spouse pursuant to a domestic relations order;
- a pledge of shares of common stock securing indebtedness of the undersigned that existed on the date hereof, provided, however, that such pledge is not related to additional advances on such indebtedness made on or after the date hereof;
- any common stock acquired by the undersigned in the open market on or after the date of the offering of the shares of common stock being offered by this prospectus supplement; and
- any transfer of common stock to a Controlled Party.

The restricted period described above will be extended if:

- during the last 17 days of the Lock-Up Period we issue an earnings release or material news or a material event relating to us occurs, or
- prior to the expiration of the Lock-Up Period, we announce that we will release earnings results during the 16-day period beginning on the last day of the Lock-Up Period,

in which case the Lock-Up Period will be extended until the expiration of the 18-day period beginning on the date of the earnings release or the occurrence of the material news or material event, unless Stifel waives such extension in writing.

NASDAQ Capital Market Listing

Our common stock is listed on The NASDAQ Capital Market under the symbol “MEIP.”

Passive Market-Making

In connection with the offering, the underwriters may engage in passive market-making transactions in the common stock on The NASDAQ Capital Market in accordance with Rule 103 of Regulation M under the Exchange Act during the period before the commencement of offers or sales of common stock and extending through the completion and distribution. A passive market-maker must display its bids at a price not in excess of the highest independent bid of the security. However, if all independent bids are lowered below the passive market-maker’s bid, that bid must be lowered when specified purchase limits are exceeded.

Short Sales, Stabilizing Transactions, and Penalty Bids

The underwriters have informed us that they will not engage in over-allotment, stabilizing or syndicate covering transactions in connection with this offering.

Other Relationships

The underwriters and their affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. The underwriters and certain of their affiliates have in the past performed and may in the future perform various financial advisory and investment banking services for us, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers, and such investment and securities activities may involve securities and/or instruments issued by us. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

LEGAL MATTERS

The validity of the issuance of the securities offered hereby will be passed upon for us by Morgan, Lewis & Bockius LLP, New York, New York. Goodwin Procter LLP, New York, New York, is acting as counsel for the underwriters.

EXPERTS

The financial statements as of June 30, 2012 and 2011, and for each of the two years in the period ended June 30, 2012, incorporated by reference into this prospectus supplement have been so incorporated in reliance on the report of BDO USA, LLP, an independent registered public accounting firm (the report on the financial statements contains an explanatory paragraph regarding the Company’s ability to continue as a going concern), incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

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 http://www.sec.gov. The SEC’s

website contains reports, proxy and information statements and other information regarding issuers, such as us, that file electronically with the SEC. You may also read and copy any document we file with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You may also obtain copies of these documents at prescribed rates by writing to the SEC. Please call the SEC at 1-800-SEC-0330 for further information on the operation of its Public Reference Room.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus supplement the information we have filed with the SEC. The information we incorporate by reference into this prospectus supplement is an important part of this prospectus supplement. Any statement in a document we incorporate by reference into this prospectus supplement or the accompanying prospectus will be considered to be modified or superseded to the extent a statement contained in this prospectus supplement or any other subsequently filed document that is incorporated by reference into this prospectus supplement modifies or supersedes that statement. The modified or superseded statement will not be considered to be a part of this prospectus supplement or accompanying prospectus, as applicable, except as modified or superseded.

We incorporate by reference into this prospectus supplement the information contained in the documents listed below, which is considered to be a part of this prospectus supplement:

- our Annual Report on Form 10-K for the fiscal year ended June 30, 2012, filed on September 18, 2012;
- our Quarterly Reports on Form 10-Q for the quarterly periods ended September 30, 2012 and December 31, 2012, filed on November 13, 2012 and February 12, 2013, respectively;
- our Current Reports on Form 8-K filed with the SEC on July 2, 2012, August 8, 2012, August 23, 2012, September 28, 2012, October 4, 2012, November 5, 2012, November 7, 2012, November 21, 2012, December 7, 2012, December 19, 2012, January 30, 2013, February 11, 2013, March 29, 2013 and April 4, 2013; and
- the description of our common stock contained in the Registration Statement on Form 8-A filed on November 26, 2003 and any further amendment or report filed thereafter for the purpose of updating such description.

We also incorporate by reference all documents filed pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus supplement and prior to the termination of this offering; provided, however, that we are not incorporating any information furnished under Item 2.02 or Item 7.01 of any current report on Form 8-K we may subsequently file.

Statements made in this prospectus supplement or the accompanying prospectus or in any document incorporated by reference in this prospectus supplement or the accompanying prospectus as to the contents of any contract or other document referred to herein or therein are not necessarily complete, and in each instance reference is made to the copy of such contract or other document filed as an exhibit to the documents incorporated by reference, each such statement being qualified in all material respects by such reference.

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

MEI Pharma, Inc.
11975 El Camino Real, Suite 101
San Diego, California 92130
Te: (858) 792-6300
Attn: Investor Relations

Copies of these filings are also available, without charge, through the “Investors” section of our website (www. meipharma.com) as soon as reasonably practicable after they are filed electronically with the SEC. The information contained on our website is not a part of this prospectus supplement.

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PROSPECTUS

$50,000,000

MARSHALL EDWARDS, INC.

Common Stock
Preferred Stock
Warrants

We may offer our common stock, preferred stock and warrants to purchase our common stock or preferred stock. Our common stock is listed on the Nasdaq Capital Market under the symbol “MSHL”.

We may offer these securities at prices and on terms to be set forth in one or more supplements to this prospectus. These securities may be offered directly, through agents on our behalf or through underwriters or dealers.

Our common stock is traded on the Nasdaq Capital Market under the symbol “MSHL.” On May 18, 2011, the closing price of our common stock on the Nasdaq Capital Market was $1.35 per share.

As of May 18, 2011, the aggregate market value of our outstanding common stock held by non-affiliates was approximately $6,619,184, based on 8,881,089 shares of outstanding common stock, of which approximately 5,620,407 shares were held by affiliates, and a price of $2.03 per share, which was the last reported sale price of our common stock on the Nasdaq Capital Market on March 28, 2011. As of the date of this prospectus, we have offered or sold $1,874,970 of securities pursuant to General Instruction I.B.6. of Form S-3 during the prior 12 calendar month period that ends on, and includes, the date of this prospectus.

An investment in our securities involves significant risks. You should carefully consider the risk factors beginning on page 4 of this prospectus before investing in our securities.

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

The date of this prospectus is May 26, 2011.

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ABOUT THIS PROSPECTUS

Unless we have indicated otherwise, references in this prospectus to “Marshall Edwards,” “we,” “us” and “our” or similar terms are to Marshall Edwards, Inc., a Delaware corporation, and its consolidated subsidiary, Marshall Edwards Pty Limited. References in this prospectus to “Novogen” refer to Novogen Limited and its consolidated subsidiaries, other than Marshall Edwards, Inc. and its subsidiary. References in this prospectus to “FDA” refer to the United States Food and Drug Administration.

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or SEC, utilizing a “shelf” registration statement. This prospectus provides you with a general description of the securities we may offer. We will describe the specific terms of those securities, as necessary, in supplements that we attach to this prospectus for each offering. Each supplement will also contain specific information about the terms of the offering it describes. The supplements may also add to, update or change information contained in this prospectus. In addition, as we describe in the sections entitled “Incorporation of Certain Information by Reference” and “Where You Can Find More Information,” we have filed and plan to continue to file other documents with the SEC that contain information about us. Before you decide whether to invest in our securities, you should read this prospectus, the supplement that further describes the offering of those securities and the information we otherwise file with the SEC.

The registration statement that contains this prospectus, including the exhibits to the registration statement, contains additional information about us and the securities being offered under this prospectus. You should read the registration statement and the accompanying exhibits for further information. The registration statement and exhibits can be read and are available to the public over the Internet at the SEC’s website at http://www.sec.gov.

You should rely only on the information contained or incorporated by reference in this prospectus and in any prospectus supplement. We have not authorized any person to provide any information or make any statement that differs from what is contained in this prospectus. If any person does make a statement that differs from what is in this prospectus, you should not rely on it. This prospectus is not an offer to sell, nor is it a solicitation of an offer to buy, these securities in any state in which the offer or sale is not permitted. The information in this prospectus is accurate as of its date, but the information may change after that date. You should not assume that the information in this prospectus is accurate as of any date after its date.

SUMMARY

The Company

We are Marshall Edwards, a development stage oncology company incorporated in December 2000 as a wholly-owned subsidiary of Novogen Limited ("Novogen"). Our common stock is listed on the Nasdaq Capital Market under the symbol "MSHL". As of May 18, 2011, Novogen owned approximately 59% of the outstanding shares of our common stock.

Our business purpose is the development of drugs for the treatment of cancer. We are currently focused on the clinical development of our two lead isoflavone-based drug candidates which we acquired in the Isoflavone Transaction (as defined below) on May 9, 2011, and prior to the consummation of such transaction had licensed from a subsidiary of Novogen. Upon consummation of the Isoflavone Transaction, these license agreements, and our other agreements with Novogen, were terminated.

We believe that our existing cash balances, which were approximately $4.9 million as of March 31, 2011, together with the net proceeds from our private placement of common stock and warrants, as described in our Current Report on Form 8-K filed with the SEC on May 16, 2011, which was consummated on May 18, 2011, will be sufficient to fund our operations until early 2012. Changes in our research and development plans or other changes affecting our operating expenses may affect actual future use of existing cash resources. In any event, however, we will need additional financing to fund our operations in the future including the continued development of our two lead drug candidates. We intend to pursue one or more capital raising transactions to further develop our drug candidates.

Clinical Product Development Programs

Program 1: NADH Oxidase Inhibitors

Our first and most advanced program is a family of compounds that includes Phenoxodiol, a first-generation compound that has been well tolerated in more than 400 patients, and a next-generation compound called NV-143. NV-143 in particular has demonstrated robust anti-tumor activity in pre-clinical studies.

First Generation: Phenoxodiol

Phenoxodiol has been administered to more than 400 patients via oral or intravenous routes and appears to be well tolerated with low toxicity. In June 2010, we unblinded the results of our randomized OVATURE trial of orally administered Phenoxodiol in combination with platinum-based chemotherapy in women with recurrent ovarian cancer. The trial was closed in April 2009 with 142 out of a planned 340 patients enrolled. The final analysis determined that the trial did not show a statistically significant improvement in either its primary (progression-free survival) or secondary (overall survival) endpoints. In this trial, less than 1% of patients (one out of 142) achieved a clinical response in either arm, suggesting that in this patient population, Phenoxodiol does not overcome platinum-resistance when administered orally.

In a comparable Phase II clinical trial of intravenously administered Phenoxodiol in combination with platinum-based chemotherapy in patients with similar disease characteristics and prior treatment regimens to those enrolled in the OVATURE study, a clinical response was observed in 30% of patients (six out of 20).

Pharmacokinetic studies suggest that significantly higher levels of active drug are measured when isoflavone compounds are administered intravenously versus the oral route. As a result of these findings, we intend to pursue the clinical development of our next-generation compounds using an intravenous formulation.

Next Generation: NV-143

NV-143 is the primary metabolite of Triphendiol, a second-generation derivative of Phenoxodiol. Pre-clinical studies show that NV-143 demonstrates enhanced anti-tumor activity against a broad range of tumor cell lines when used alone or in combination with platinum-based chemotherapy when compared to both Phenoxodiol and Triphendiol.

As a result, NV-143 has been selected as the lead product candidate for this program. We are completing drug manufacturing and non-clinical safety studies of NV-143 and expect to initiate a Phase I safety trial during the third quarter of 2011, followed immediately thereafter by randomized Phase II studies in combination with chemotherapy.

Program 2: Mitochondrial Inhibitors

Our second program is a family of compounds that includes NV-128, a first-generation compound that has shown activity against a broad range of cancer cell lines, and a next-generation compound called NV-344 that appears to be more active than NV-128 in pre-clinical studies.

First Generation: NV-128

NV-128 is an investigational cancer compound which has been shown in pre-clinical laboratory studies to promote cancer cell death by targeting the specific protein regulatory pathway (i.e., AKT-mTOR pathway) in cancer cells that have become resistant to many drugs used to kill cancer cells. Structurally, NV-128 is an analogue of Phenoxodiol, but in contrast uses different molecular mechanisms to promote the death of cancer cells.

In September 2009, we released data demonstrating that the efficacy of NV-128 in animal xenograft models is achieved without apparent toxicity. NV-128 is a novel mitochondrial inhibitor, capable of inhibiting both mTORC1 and mTORC2 protein regulatory pathways which are suggested to be central to the aberrant proliferative capacity of both mature cancer cells and cancer stem cells. Laboratory data in mice bearing human ovarian cancer xenografts demonstrated that NV-128 may have greater safety than some other mTOR inhibitors. Additional data released reported that NV-128 was judged to be without cardiac toxicity in laboratory studies.

NV-128 has shown activity in pre-clinical models against a broad range of cancers, including KRAS-mutant, Tarceva-resistant non-small cell lung cancer cell lines. Results from an ongoing study conducted in collaboration with Dr. Gil Mor, an oncologist at the Yale School of Medicine, demonstrate that NV-128 is active against all chemotherapy-resistant ovarian tumor cells tested to date.

In November 2010, Dr. Ayesha Alvero from the Department of Obstetrics, Gynecology, and Reproductive Sciences at the Yale School of Medicine presented data from a pre-clinical study of NV-128 demonstrating its ability to induce mitochondrial instability, ultimately leading to cell death in chemotherapy-resistant ovarian cancer stem cells. The data were reported at the 1st World Congress on Targeting Mitochondria in Berlin. In April 2011, Dr. Alvero presented an abstract highlighting our mitochondrial inhibitor program at the American Association for Cancer Research Annual Meeting in Orlando.

Next Generation: NV-344

We have identified a potential natural metabolite of NV-128 in a compound we call NV-344. In preliminary studies, NV-344 has demonstrated more activity against a panel of human tumor cell lines as compared to NV-128. We are in the process of finalizing our lead identification studies for this program, after which we plan to conduct the necessary animal toxicity studies to initiate a Phase I trial during the second half of 2011.

Corporate Information

Our principal executive offices are located at 11975 El Camino Real, Suite 101, San Diego, California, 92130, and our phone number is (858) 792-6300.

RISK FACTORS

Any investment in our securities involves a high degree of risk. In addition to the other information included or incorporated by reference in this prospectus and any accompanying prospectus supplement, you should carefully consider the important factors set forth under the heading "Risk Factors" starting on page 24 of our Annual Report on Form 10-K for the fiscal year ended June 30, 2010, as well as in our subsequent annual reports on Form 10-K and in other reports we file with the SEC from time to time, and incorporated herein by reference before investing in our securities. For further details, see the sections entitled "Where You Can Find More Information" and "Incorporation of Certain Information by Reference."

Any of the risk factors set forth below or referred to above could significantly and negatively affect our business, results of operations or financial condition, which may lower the trading price of our common stock. The risks referred to above are not the only ones that may exist. Additional risks not currently known by us or that we deem immaterial may also impair our business operations. You may lose all or a part of your investment.

Our stockholders may not realize a benefit from the Isoflavone Transaction commensurate with the ownership dilution they will experience in connection with the Isoflavone Transaction.

On May 9, 2011, we completed the acquisition of certain assets used in or generated under or in connection with the discovery, development, manufacture and marketing of intellectual property and products based on the field of isoflavonoid technology and on compounds known as isoflavones, including those related to the drug candidates Phenoxodiol, Triphendiol, NV 143 and NV-128 (the "Isoflavone -related Assets"), from Novogen in accordance with the terms of the Asset Purchase Agreement, dated as of December 21, 2010, between us, Novogen and Novogen Research Pty Limited. The acquisition of the Isoflavone-related Assets and the other transactions contemplated by the Asset Purchase Agreement are referred to in this prospectus as the "Isoflavone Transaction."

If we are unable to realize the expected strategic and financial benefits from the Isoflavone Transaction, our stockholders may experience substantial dilution of their ownership interest upon the conversion of the Series A Convertible Preferred Stock, which may be converted at any time and from time to time without the payment of any additional consideration, without receiving any commensurate benefit. As of May 18, 2011, Novogen beneficially owned approximately 59% of our outstanding shares of common stock and, upon consummation of the Isoflavone Transaction, acquired 1,000 shares of our Series A Convertible Preferred Stock which is initially convertible into 4,827,000 shares of our common stock, which would increase Novogen's ownership percentage to over 73%. In addition, upon our achievement of certain development milestones relating to the Isoflavone-related Assets, the aggregate number of shares into which the Series A Convertible Preferred Stock may be converted would increase to 9,654,000, which would potentially increase Novogen's ownership percentage to over 80%, absent the issuance of any other shares of our common stock. Although in the Asset Purchase Agreement Novogen made certain representations and warranties regarding its intellectual property rights in respect of the Isoflavone-related Assets, its indemnification obligations in respect of these representations and warranties are limited and are payable solely by the forfeiture of our securities issued as consideration in the Isoflavone Transaction and expire on June 30, 2011, and may not be sufficient to compensate us for the loss of any such intellectual property rights acquired in the Isoflavone Transaction.

Although we intend to use the net proceeds from any offering made pursuant to this prospectus, together with other available funds, to progress our clinical trial programs and for other general corporate purposes, our management will have broad discretion over the use of the net proceeds from any offering, and you may not agree with how we use the proceeds and the proceeds may not be invested successfully.

We have not specifically identified the precise amounts we will spend on our clinical trial programs or for other purposes or the timing of these expenditures. The amounts actually expended may vary significantly depending upon numerous factors, including the amount and timing of the proceeds from any offering pursuant

to this prospectus, the progress of our clinical trials and other product development activities. In addition, expenditures may also depend on the establishment of new collaborative arrangements with other partners, the availability of other financing and other factors. Accordingly, you will be relying on the judgment of our management with regard to the use of any net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that any proceeds will be invested in a way that does not yield a favorable, or any, return for our company.

Final approval by regulatory authorities of our drug candidates for commercial use may be delayed, limited or prevented, any of which would adversely affect our ability to generate operating revenues.

We will not generate any operating revenue until we successfully commercialize one of our drug candidates. Currently, we have drug candidates at different stages of development and each will need to successfully complete a number of tests and obtain regulatory approval before potential commercialization.

In particular, any of the following factors may serve to delay, limit or prevent the final approval by regulatory authorities of our drug candidates for commercial use:

- NV-143 and NV-128 (or their analogues) are in the early stages of clinical development, and we will need to conduct significant clinical testing to prove safety and efficacy before applications for marketing can be filed with the FDA, or with the regulatory authorities of other countries;
- data obtained from pre-clinical and clinical tests can be interpreted in different ways, which could delay, limit or prevent regulatory approval;
- development and testing of product formulation, including identification of suitable excipients, or chemical additives intended to facilitate delivery of our drug candidates;
- it may take us many years to complete the testing of its drug candidates, and failure can occur at any stage of this process; and
- negative or inconclusive results or adverse medical events during a clinical trial could cause us to delay or terminate our development efforts.

The successful development of any of these drug candidates is uncertain and accordingly we may never commercialize any of these drug candidates or generate revenue.

We have a limited operating history and are likely to incur operating losses for the foreseeable future.

You should consider our prospects in light of the risks and difficulties frequently encountered by early stage and developmental companies. Although we were incorporated in December 2000, we have only been in operation since May 2002. We have incurred net losses of $75,946,000 since our inception through March 31, 2011, including net losses of $7,896,000, $11,180,000 and $12,410,000 for the years ended June 30, 2010, 2009 and 2008, respectively. We anticipate that we will incur operating losses and negative operating cash flow for the foreseeable future. We have not yet commercialized any drug candidates and cannot be sure that we will ever be able to do so, or that we may ever become profitable.

We have limited existing financial resources and will need substantial additional funds to progress the clinical trial program for NV-143 or NV-128 (or their analogues) beyond their early stages and to develop new in-licensed compounds purchased from Novogen in the Isoflavone Transaction. The actual amount of funds we will need will be determined by a number of factors, some of which are beyond our control.

We have limited cash resources and liquidity. We will need substantial additional funds to progress the clinical trial program for NV-143 or NV-128 (or their analogues) and to develop any additional compounds. The factors which will determine the actual amount of funds that we will need to progress the clinical trial programs for NV-143 and NV-128 (or their analogues) may include the following:

- the number of sites included in the trials;

- the length of time required to enroll suitable patients;
- the number of patients who participate in the trials and the rate that they are recruited;
- the number of treatment cycles patients complete while they are enrolled in the trials; and
- the efficacy and safety profile of the product.

If we are unable to obtain additional funds on favorable terms we may be required to cease or reduce our operations. Also, if we raise more funds by selling additional securities, the ownership interests of holders of our securities will be diluted.

The uncertain financial markets may negatively impact our liquidity and our ability to continue our planned future clinical trials program, by precluding us from raising funds through equity issuances on terms favorable to us or at all.

We have traditionally raised capital through the sale of equity securities to investors and intend to seek additional capital, in a significant amount compared to our current market capitalization, through one or more equity transactions. Following the events of September 2008, the financial services industry, credit markets and capital markets experienced a period of unprecedented turmoil and volatility. We may have difficulty raising the capital necessary to finance our business operations through the sale of equity securities on terms favorable to us or at all or through other types of financing. In order to obtain the additional funding necessary to conduct our business, we may need to rely on collaboration and /or licensing opportunities. We cannot assure you that we will be able to raise the funds necessary or find appropriate collaboration or licensing opportunities to fund our future business plan.

As our majority stockholder, Novogen has the ability to determine the outcome of matters submitted to our stockholders for approval, and Novogen's interests may conflict with ours or our other stockholders' interests.

As of May 18, 2011, Novogen beneficially owned approximately 59% of our outstanding shares of common stock. Upon consummation of the Isoflavone Transaction, Novogen acquired 1,000 shares of our Series A Convertible Preferred Stock that is initially convertible into 4,827,000 shares of our common stock, which, if entirely converted into common stock, would increase Novogen's ownership percentage to over 73%. In addition, upon our achievement of certain development milestones relating to the Isoflavone-related Assets, the aggregate number of shares into which the Series A Convertible Preferred Stock may be converted would increase to 9,654,000, which would potentially increase Novogen's ownership percentage to over 80%, absent the issuance of any other shares of our common stock. As a result, Novogen will have the ability to effectively determine the outcome of all matters submitted to our stockholders for approval, including the election and removal of directors and any merger, consolidation or sale of all or substantially all of our assets.

Novogen will have the ability to effectively control our management and affairs. Novogen's interests may not always be the same as those of our other stockholders. In addition, this concentration of ownership may harm the market price of our securities by:

- delaying, deferring or preventing a change in control;
- impeding a merger, consolidation, takeover or other business combination involving us;
- discouraging a potential acquirer from making a tender, offer or otherwise attempting to obtain control of us; or
- selling us to a third party.

Risks Related to Our Common Stock

The trading price of the shares of our common stock has been and may continue to be highly volatile and could decline in value and we may incur significant costs from class action litigation.

The trading price of our common stock could be highly volatile in response to various factors, many of which are beyond our control, including:

- developments concerning drug candidates NV-143 and NV-128 and their analogues;
- announcements of technological innovations by us or our competitors;
- new products introduced or announced by us or our competitors;
- changes in financial estimates by securities analysts;
- actual or anticipated variations in operating results;
- expiration or termination of licenses, research contracts or other collaboration agreements;
- conditions or trends in the regulatory climate and the biotechnology, pharmaceutical and genomics industries;
- instability in the stock market as a result of current global events;
- changes in the market valuations of similar companies;
- the liquidity of any market for our securities; and
- additional sales by us or Novogen of shares of our common stock.

In addition, equity markets in general, and the market for biotechnology and life sciences companies in particular, have experienced substantial price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of companies traded in those markets. In addition, changes in economic conditions in the U.S., Europe or globally, particularly in the context of current global events, could impact upon our ability to grow profitably. Adverse economic changes are outside our control and may result in material adverse impacts on our business or our results of operations. These broad market and industry factors may materially affect the market price of shares of our common stock, regardless of our development and operating performance. In the past, following periods of volatility in the market price of a company's securities, securities class-action litigation has often been instituted against that company. Such litigation, if instituted against us, could cause us to incur substantial costs and divert management's attention and resources.

We cannot assure you that we will be able to obtain financing sufficient to meet our future capital and operating needs.

We cannot assure you that the net proceeds from any offerings of securities pursuant to this prospectus will be sufficient to meet our expected capital and operating needs to commercialize our drug candidates. We expect to have to attempt to sell additional shares of common stock, and securities exercisable or convertible into shares of our common stock, in the future to satisfy our capital and operating needs. If we sell shares in the future, the prices at which we sell these future shares will vary, and these variations may be significant. Purchasers of the shares we sell pursuant to future offerings, as well as our existing stockholders, will experience significant dilution if we sell these future shares at prices significantly below the price at which previous shareholders invested.

Pursuant to the terms of the Amended and Restated Securities Purchase Agreement ("Amended and Restated Securities Purchase Agreement"), dated May 16, 2011, between us and certain accredited investors (the "Purchasers"), we have agreed not to offer or sell any of our or our subsidiaries' equity securities, including securities that are convertible or exchangeable for our common stock, or to file any new registration statement,

other than as required by the registration rights agreement between us and the Purchasers, until the earlier of (i) June 18, 2012 and (ii) 90 days after the registration of all of the securities we have agreed to register pursuant to the registration rights agreement. The foregoing restrictions on securities issuances do not apply to certain permitted issuances, including the issuance of up to $4,000,000 of common stock and warrants to purchase common stock between the later to occur of 120 days after the closing date under the Amended and Restated Securities Purchase Agreement and the date on which all of the common stock issued pursuant to the Amended and Restated Securities Purchase Agreement has been registered under the Securities Act.

Future sales of our common stock, including upon conversion of our outstanding Series A Convertible Preferred Stock and exercise of our outstanding series A and series B warrants, may depress the market price of our common stock and cause stockholders to experience dilution.

The market price of our common stock could decline as a result of sales of substantial amounts of our common stock in the public market, including upon conversion of the Series A Convertible Preferred Stock or exercise of outstanding warrants. On May 18, 2011, pursuant to the Amended and Restated Securities Purchase Agreement, we issued 835,217 shares of common stock together with series A and series B warrants initially exercisable for an aggregate amount of approximately 2.8 million shares of common stock, which amount could increase to a maximum of approximately 4.4 million shares of common stock upon the occurrence of certain events. Also pursuant to the Amended and Restated Securities Purchase Agreement, we agreed to issue certain additional shares of our common stock, up to a maximum amount of approximately 2.3 million shares, to the extent the trading price of our common stock is below certain levels on specified dates. We intend to seek additional capital through one or more additional equity transactions in 2011; however, such transactions will be subject to market conditions and there can be no assurance any such transaction will be completed.

Because we do not intend to pay, and have not paid, any cash dividends on our shares of common stock, our stockholders will not be able to receive a return on their shares unless the value of our common stock appreciates and they sell their shares.

We have never paid or declared any cash dividends on our common stock, and we intend to retain any future earnings to finance the development and expansion of our business. We do not anticipate paying any cash dividends on our common stock in the foreseeable future. Therefore, our stockholders will not be able to receive a return on their investment unless the value of our common stock appreciates and they sell their shares.

Our common stock may be delisted from Nasdaq.

During 2010, we received deficiency notices from Nasdaq regarding non-compliance with the minimum stockholders equity and the minimum Market Value of Publicly Held Shares in accordance with Nasdaq Listing Standards for the Nasdaq Global Market. On March 7, 2011, a Nasdaq Hearing Panel granted us until May 16, 2011 to evidence compliance with the stockholders equity and minimum Market Value of Publicly Held Shares requirement. On March 23, 2011, we received a positive response from the Nasdaq Listing Qualifications Staff indicating that our request for a transfer and continued listing on the Nasdaq Capital Market had been granted. Our common stock began trading on the Nasdaq Capital Market effective with the open of business on March 16, 2011.

In addition, under Nasdaq rules, companies listed on the Nasdaq Capital Market are required to maintain a share price of at least $1.00 per share and if the share price declines below $1.00 for a period of 30 consecutive business days, then the listed company would have 180 days to regain compliance with the $1.00 per share minimum. In the event that our share price declines below $1.00, we may be required to take action, such as a reverse stock split, in order to comply with the Nasdaq rules that may be in effect at the time.

If we are not able to comply with the listing standards of the Nasdaq Capital Market, our common stock will be delisted from Nasdaq and an associated decrease in liquidity in the market for our common stock will occur.

In addition, if the market price of our common stock remains below $5.00 per share, under stock exchange rules, our stockholders will not be able to use such shares as collateral for borrowing in margin accounts. Further, certain institutional investors are restricted from investing in shares priced below $5.00. This inability to use shares of our common stock as collateral and the inability of certain institutional investors to invest in our shares may depress demand and lead to sales of such shares creating downward pressure on and increased volatility in the market price of our common stock.

CAUTIONARY STATEMENT ABOUT FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act") and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). All statements other than statements of historical facts contained in this prospectus and in the documents incorporated by reference herein, including statements regarding the future financial position, business strategy and plans and objectives of management for future operations, are forward-looking statements. The words "believe," "may," "will," "estimate," "continue," "anticipate," "intend," "should," "plan," "expect," and similar expressions, as they relate to us, are intended to identify forward-looking statements. We have based these forward-looking statements largely on current expectations and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including, without limitation, those described in "Risk Factors" and elsewhere in this prospectus and the documents incorporated by reference herein, including, among other things:

- expected benefits from the Isoflavone Transaction may not be fully realized within the expected time frames or at all;
- the risk that the isoflavone-related assets will not be integrated successfully with our business or such integration may be more difficult, time-consuming or costly than expected;
- inability to obtain required additional financing or financing on acceptable terms, or at all, which may cause us to delay, scale-back or eliminate plans related to development of our drug candidates;
- we are in an early stage of pre-clinical studies for our next generation product candidates on which the Company's development plans are based; pre-clinical studies by their nature typically have a high level of risk of failure, and may not produce successful results;
- inability to maintain or enter into, and dependence upon, collaboration or contractual arrangements necessary for the clinical development of NV-143 and NV-128 or their analogues;
- failure to successfully commercialize product candidates;
- costs and delays in the clinical development program and/or receipt of FDA or other required governmental approvals, or the failure to obtain such approvals, for product candidates;
- uncertainties in clinical trial results;
- inability to maintain or enter into, and the risks resulting from dependence upon, collaboration or contractual arrangements necessary for the development, manufacture, commercialization, marketing, sales and distribution of any products;
- inability to control the costs of manufacturing products;
- competition and competitive factors;
- inability to protect patents or proprietary rights and obtain necessary rights to third party patents and intellectual property to operate our respective businesses;
- inability to operate without infringing the patents and proprietary rights of others;
- costs stemming from defense against third party intellectual property infringement claims;
- general economic conditions;
- the failure of any products to gain market acceptance;
- technological changes;
- government regulation generally and the receipt of the regulatory approvals;
- changes in industry practice; and
- one-time events.

These risks are not exhaustive. Other sections of this prospectus and the documents incorporated by reference herein include additional factors which could adversely impact our business and financial performance. Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time and it is not possible for us to predict all risk factors, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

You should not rely upon forward looking statements as predictions of future events. We cannot assure you that the events and circumstances reflected in the forward looking statements will be achieved or occur. Although we believe that the expectations reflected in the forward looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements.

SECURITIES OFFERED BY THIS PROSPECTUS

Using this prospectus, we may offer from time to time, in one or more series, together or separately, at prices and terms to be determined at the time of offering:

- shares of common stock, $0.00000002 par value;
- shares of preferred stock, $0.01 par value; and
- warrants to purchase shares of common stock or preferred stock.

The shares of preferred stock may be convertible into or exchangeable for shares of our common stock or preferred stock issued by us.

See “Description of Securities” for a description of the terms of the common stock, preferred stock and warrants.

USE OF PROCEEDS

Although we expect to use a substantial portion of the net proceeds from the sale of securities under this prospectus for general corporate purposes, including to progress our clinical trial programs, we have not allocated these net proceeds for specific purposes. If, as of the date of any prospectus supplement, we have identified any additional use for the net proceeds, we will describe them in the prospectus supplement. The amount of securities offered from time to time pursuant to this prospectus and any prospectus supplement, and the precise amount of the net proceeds we will receive from the sale of such securities, as well as the timing of receipt of those proceeds, will depend upon our funding requirements. If we elect at the time of an issuance of securities to make different or more specific uses of the proceeds than as set forth herein, we will describe those uses in the applicable prospectus supplement.

RATIOS OF EARNINGS TO COMBINED FIXED CHARGES AND PREFERRED STOCK DIVIDENDS

We incurred net losses and did not have any fixed charges for the nine months ended March 31, 2011 other than insignificant charges related to a premises rental agreement. There were no fixed charges for the years ended June 30, 2010, 2009, 2008, 2007 and 2006. We also did not have any shares of preferred stock outstanding during these periods.

PLAN OF DISTRIBUTION

We may sell the securities included in this prospectus (i) through agents, (ii) through underwriters, (iii) through dealers, (iv) directly to a limited number of purchasers or to a single purchaser, or (v) through a combination of any such methods of sale.

The distribution of the securities may be effected from time to time in one or more transactions, including block transactions and transactions on the Nasdaq Capital Market or any other organized market where the securities may be traded:

- at a fixed price or at final prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

Offers to purchase securities may be solicited directly by us, or by agents designated by us, from time to time. Any such agent, which may be deemed to be an underwriter as that term is defined in the Securities Act, as amended, involved in the offer or sale of the securities in respect of which this prospectus is delivered will be named, and any commissions payable by us to such agent will be set forth, in the applicable prospectus supplement.

If an underwriter is, or underwriters are, utilized in the offer and sale of securities in respect of which this prospectus and the accompanying prospectus supplement are delivered, we will execute an underwriting agreement with such underwriter(s) for the sale to it or them and the name(s) of the underwriter(s) and the terms of the transaction, including any underwriting discounts and other items constituting compensation of the underwriters and dealers, if any, will be set forth in such prospectus supplement, which will be used by the underwriter(s) to make resales of the securities in respect of which this prospectus and such prospectus supplement are delivered to the public. 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. Any initial public offering price and any discounts or concessions allowed or reallowed or paid to dealers may be changed from time to time.

If a dealer is utilized in the sale of the securities in respect of which this prospectus is delivered, we will sell such securities to the dealer, as principal. The dealer may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale. The name of the dealer and the terms of the transaction will be identified in the applicable prospectus supplement.

If an agent is used in an offering of securities being offered by this prospectus, the agent will be named, and the terms of the agency will be described, in the applicable prospectus supplement relating to the offering. Unless otherwise indicated in the prospectus supplement, an agent will act on a best efforts basis for the period of its appointment.

If indicated in the applicable prospectus supplement, we will authorize underwriters or their other agents to solicit offers by certain institutional investors to purchase securities from us pursuant to contracts providing for payment and delivery at a future date. Institutional investors with which these contracts may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and others. In all cases, these purchasers must be approved by us. The obligations of any purchaser under any of these contracts will not be subject to any conditions except that (a) the purchase of the securities must not at the time of delivery be prohibited under the laws of any jurisdiction to which that purchaser is subject, and (b) if the securities are also being sold to underwriters, we must have sold to these underwriters the securities not subject to delayed delivery. Underwriters and other agents will not have any responsibility in respect of the validity or performance of these contracts.

Certain of the underwriters, dealers or agents utilized by us in any offering hereby may be customers of, including borrowers from, engage in transactions with, and perform services for us or one or more of our affiliates in the ordinary course of business. Underwriters, dealers, agents and other persons may be entitled, under agreements which may be entered into with us, to indemnification against certain civil liabilities, including liabilities under the Securities Act of 1933, as amended.

Until the distribution of the securities is completed, rules of the SEC may limit the ability of the underwriters and certain selling group members, if any, to bid for and purchase the securities. As an exception to these rules, the representatives of the underwriters, if any, are permitted to engage in certain transactions that stabilize the price of the securities. Such transactions may consist of bids or purchases for the purpose of pegging, fixing or maintaining the price of the securities.

If underwriters create a short position in the securities in connection with the offering thereof (in other words, if they sell more securities than are set forth on the cover page of the applicable prospectus supplement), the representatives of such underwriters may reduce that short position by purchasing securities in the open market. Any such representatives also may elect to reduce any short position by exercising all or part of any over-allotment option described in the applicable prospectus supplement.

Any such representatives also may impose a penalty bid on certain underwriters and selling group members. This means that if the representatives purchase securities in the open market to reduce the underwriters' short position or to stabilize the price of the securities, they may reclaim the amount of the selling concession from the underwriters and selling group members who sold those shares as part of the offering thereof.

In general, purchases of a security for the purpose of stabilization or to reduce a syndicate short position could cause the price of the security to be higher than it might otherwise be in the absence of such purchases. The imposition of a penalty bid might have an effect on the price of a security to the extent that it was to discourage resales of the security by purchasers in the offering.

Neither we nor any of the underwriters, if any, makes any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of the securities. In addition, neither we nor any of the underwriters, if any, makes any representation that the representatives of the underwriters, if any, will engage in such transactions or that such transactions, once commenced, will not be discontinued without notice.

The anticipated date of delivery of the securities offered by this prospectus will be described in the applicable prospectus supplement relating to the offering. The securities offered by this prospectus may or may not be listed on a national securities exchange or a foreign securities exchange. We cannot give any assurances that there will be a market for any of the securities offered by this prospectus and any prospectus supplement.

We will bear costs relating to all of the securities being registered under this prospectus, other than underwriters' discounts and commissions. In compliance with the guidelines of the Financial Services Regulatory Authority, Inc., or FINRA, the maximum compensation to be received by a FINRA member or independent broker-dealer may not exceed 8% of the offering proceeds. It is anticipated that the maximum compensation to be received in any particular offering of securities will be less than this amount.

DESCRIPTION OF SECURITIES

Securities We May Offer Under this Prospectus

Common Stock

For a description of our common stock, please see our Registration Statement on Form 8-A filed with the SEC on November 26, 2003, and any further amendment or report filed thereafter for the purpose of updating such description.

Preferred Stock

The material terms of any series of preferred stock that we offer through a prospectus supplement will be described in that prospectus supplement. Our board of directors is authorized to provide for the issuance of blank check preferred stock in one or more series with designations as may be stated in the resolution or resolutions providing for the issue of such preferred shares. At the time that any series of our preferred stock is authorized, our board of directors will fix the dividend rights, any conversion rights, any voting rights, redemption provisions, liquidation preferences and any other rights, preferences, privileges and restrictions of that series, as well as the number of shares constituting that series and their designation. Our board of directors could, without stockholder approval, cause us to issue preferred stock which has voting, conversion and other rights that could adversely affect the holders of our common stock or make it more difficult to effect a change in control. Our preferred stock could be used to dilute the share ownership of persons seeking to obtain control of us and thereby hinder a possible takeover attempt which, if our stockholders were offered a premium over the market value of their shares, might be viewed as being beneficial to our stockholders. In addition, our preferred stock could be issued with voting, conversion and other rights and preferences which would adversely affect the voting power and other rights of holders of our common stock.

Warrants

We may issue warrants to purchase our common stock or preferred stock. Warrants may be issued independently or together with any other securities and may be attached to, or separate from, such securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and a warrant agent. The terms of any warrants to be issued and a description of the material provisions of the applicable warrant agreement will be set forth in the applicable prospectus supplement.

The applicable prospectus supplement will describe the following terms of any warrants in respect of which this prospectus is being delivered:

- the title of such warrants;
- the aggregate number of such warrants;
- the price or prices at which such warrants will be issued;
- the currency or currencies, in which the price of such warrants will be payable;
- the securities purchasable upon exercise of such warrants;
- the price at which and the currency or currencies, in which the securities or other rights purchasable upon exercise of such warrants may be purchased;
- the date on which the right to exercise such warrants shall commence and the date on which such right shall expire;
- if applicable, the minimum or maximum amount of such warrants which may be exercised at any one time;
- if applicable, the designation and terms of the securities with which such warrants are issued and the number of such warrants issued with each such security;

- if applicable, the date on and after which such warrants and the related securities will be separately transferable;
- information with respect to book-entry procedures, if any;
- if applicable, a discussion of any material United States Federal income tax considerations; and
- any other terms of such warrants, including terms, procedures and limitations relating to the exchange and exercise of such warrants.

Description of Share Capital

As of May 18, 2011, we had 8,881,089 shares of common stock outstanding. In addition, we have 1,000 shares of Series A Convertible Preferred Stock outstanding, which are initially convertible into an aggregate of 4,827,000 shares of our common stock, which conversion ratio may increase upon our achievement of certain development milestones. For a description of our Series A Convertible Preferred Stock, please see our Current Report on Form 8-K/A filed with SEC on May 13, 2011.

As of May 18 2011, there were outstanding warrants to purchase 248,003 shares of our common stock at exercise prices from $21.70 to $36.00 per share, which expire at various dates in calendar years 2012 and 2013, and options to purchase 418,585 shares of common stock at exercise prices from $0.77 to $6.30 per share, which expire at various dates in calendar years 2014 and 2015, and pursuant to the Amended and Restated Securities Purchase Agreement, on May 18, 2011, we also issued two series of warrants initially exercisable for up to approximately 2.8 million shares of common stock, subject to increase upon the occurrence of certain events. For a description of the terms of these warrants, please see our Current Report on Form 8-K filed with the SEC on May 16, 2011.

LEGAL MATTERS

The validity of the securities described herein will be passed upon for us by Morgan, Lewis & Bockius LLP.

EXPERTS

The financial statements as of June 30, 2010 and 2009, and for each of the three years in the period ended June 30, 2010, incorporated by reference into this prospectus have been so incorporated in reliance on the report of BDO Audit (NSW-VIC) Pty Ltd, an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus and any accompanying prospectus supplement the information we have filed with the SEC. The information we incorporate by reference into this prospectus is an important part of this prospectus. Any statement in a document we incorporate by reference into this prospectus will be considered to be modified or superseded to the extent a statement contained in this prospectus, any accompanying prospectus supplement or any other subsequently filed document that is incorporated by reference into this prospectus or any accompanying prospectus supplement modifies or supersedes that statement. The modified or superseded statement will not be considered to be a part of this prospectus or any accompanying prospectus supplement, as applicable, except as modified or superseded.

We incorporate by reference into this prospectus the information contained in the documents listed below, which is considered to be a part of this prospectus:

- our Annual Report on Form 10-K for the fiscal year ended June 30, 2010, as amended by the Form 10-K/A filed on October 28, 2010;
- our Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2010, as amended by the Form 10-Q/A filed on February 7, 2011; our Quarterly Report on Form 10-Q for the quarterly period ended December 31, 2010, filed on February 11, 2011; and our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2011, filed on May 16, 2011;
- our Current Reports on Form 8-K filed with the SEC on July 20, 2010, August 11, 2010, September 8, 2010 (excluding those portions furnished and not filed), November 19, 2010, December 22, 2010, January 19, 2011, January 27, 2011, February 7, 2011, March 18, 2011, April 18, 2011, May 2, 2011, May 11, 2011 (as amended by the Current Report on Form 8-K/A filed on May 13, 2011) and May 16, 2011; and
- the description of our common stock contained in the Registration Statement on Form 8-A filed on November 26, 2003, and any further amendment or report filed thereafter for the purpose of updating such description.

We also incorporate by reference all documents filed pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus and prior to the termination of this offering; provided, however, that we are not incorporating any information furnished under Item 2.02 or Item 7.01 of any current report on Form 8-K we may subsequently file.

Statements made in this prospectus or any accompanying prospectus supplement or in any document incorporated by reference in this prospectus or any accompanying prospectus supplement as to the contents of any contract or other document referred to herein or therein are not necessarily complete, and in each instance reference is made to the copy of such contract or other document filed as an exhibit to the documents incorporated by reference, each such statement being qualified in all material respects by such reference.

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

Marshall Edwards, Inc.
11975 El Camino Real, Suite 101
San Diego, California 92130
Te: (858) 792-6300
Attn: Investor Relations

Copies of these filings are also available, without charge, through the “Investors” section of our website (www. marshalledwardsinc.com) as soon as reasonably practicable after they are filed electronically with the SEC. The information contained on our website is not a part of this prospectus.

WHERE YOU CAN FIND MORE INFORMATION

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 *http://www.sec.gov*. The SEC’s website contains reports, proxy and information statements and other information regarding issuers, such as us, that file electronically with the SEC. You may also read and copy any document we file with the SEC at the SEC’s Public Reference Room at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You may also obtain copies of these documents at prescribed rates by writing to the SEC. Please call the SEC at 1-800-SEC-0330 for further information on the operation of its Public Reference Room.

Table of Contents

2,030,000 Shares

Common Stock

PROSPECTUS SUPPLEMENT
April 4, 2013

Joint Book-Runners

Stifel **Cowen and Company**

Co-Manager
Roth Capital Partners